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WHEAT SIGNATURE MODELING AND ANALYSIS FOR IMPROVED TRAINING STATISTICS: Supplement

Simulated LANDSAT Wheat Radiances and Radiance Components

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16. Abstract

This supplement presents in detail a series of simulated scanner system data values generated in support of LACIE (Large Area Crop Inventory Experiment) research and development efforts. Synthetic inband (Landsat) wheat radiances and radiance components were computed and are presented for various wheat canopy and atmospheric conditions and scanner view geometries. Values include:

(1) inband (Landsat) bidirectional reflectances for seven stages of wheat crop growth,

(2) inband (Landsat) atmospheric features, and

(3) inband (Landsat) radiances corresponding to the various combinations of wheat canopy and atmospheric conditions.

Analyses of these data values are presented in the main report.

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PREFACE

This document reports processing efforts on one task of a comprehensive and continuing program of research in multispectral remote sensing of the environment. The research is being carried out for NASA's Lyndon B. Johnson Space Center, Houston, Texas, by the Environmental Research Institute of Michigan (ERIM). The basic objective of this program is to develop remote sensing as a practical tool for obtaining extensive environmental information quickly and economically.

The specific focus of the work reported herein is to supply a detailed listing of simulated Landsat wheat radiances as well as inband atmospheric and reflectance components of these radiances. These are initial synthetic values generated in support of LACIE research and development efforts.

The research covered in this report was performed under Contract NAS9-14123 during the period 15 May 1975 to 14 May 1976. Dr. Andrew Potter (TF3) served as the NASA Contract Technical Monitor. At ERIM, work was performed within the Infrared and Optics Division, headed by Richard R. Legault, Vice-President of ERIM, in the Information Systems and Analysis Department, headed by Dr. Jon D. Erickson. Mr. Richard F. Nalepka, Head of the Multispectral Analysis Section served as Principal Investigator.

The authors wish to acknowledge the assistance of other members of the ERIM staff in addition to those cited above. Dr. R. E. Turner was consulted on the use and adaptation of his radiative transfer model. Dr. G. H. Suits was consulted on the use and adaptation of his vegetation bidirectional reflectance model. Mr. R. J. Kauth assisted in the specification of simulation parameters. Typing of this report and earlier materials was performed ably by Miss D. Dickerson.

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TABLES

SIMULATED LANDSAT WHEAT RADIANCES AND RADIANCE COMPONENTS

1
INTRODUCTION

This report is a supplement to the final report entitled "Wheat Signature Modeling and Analysis for Improved Training Statistics" [1]. The intent is to provide a complete listing of the initial set of synthetic data values generated in support of LACIE research and development efforts. These values include:

(1) inband (Landsat) bidirectional reflectances for seven stages of wheat crop growth at a variety of viewing conditions;

(2) inband (Landsat) atmospheric features for a variety of atmospheric conditions and viewing geometries;

(3) inband (Landsat) radiances corresponding to combinations of the above wheat canopy and atmospheric conditions.

The data are presented in nine appendices and are preceded by a discussion of the ERIM Multispectral System Simulation Model employed and the model parameters implemented in calculating the synthetic inband data values. Appendix A contains the computed reflectance values, Appendix B contains the computed atmospheric values, and Appendix C through Appendix I contain the simulated radiance values.

2
OBJECTIVE

A need was recognized by NASA for an extensive and consistent set of synthetic Landsat data values and their various radiance components, for general use by members of the LACIE project team. Such data are of potential use in the development of various remote sensing systems and information extraction techniques and in solving specific problems of LACIE. Example uses and benefits are those of enabling analysts to

(1) assess the relative importance of the variety of factors affecting signals, (2) gain insight into the variability of training statistics in Landsat data, (3) improve and extend analyses of field measurement data, (4) gain insight on aspects of the signature extension problem and provide quantitative data to aid in developing solutions such as haze correction algorithms, (5) gain insight into the operation of alternative classification techniques, such as the Delta Classifier [2], and (6) gain insight and provide quantitative bases for developing data transformation procedures, such as the tasseled-cap transformation [3].

3
APPROACH

The capability required was that of simulating multispectral scanner signals from wheat fields for a variety of ground and observation conditions and parameters. At this initial stage, it was important to consider a wide range of conditions and generate a consistent set of simulated values. It was deemed desirable, since the basic capability existed, to carry out calculations at a relatively fine spectral interval, multiply by the relative spectral response functions of Landsat and integrate over wavelength to obtain effective inband values, rather than approximating these by values at a single wavelength for each Landsat spectral band.

Existing computer models developed at ERIM to compute vegetation canopy bidirectional reflectance and atmospheric radiative transfer characteristics were linked and a sensor submodel was added to form the ERIM Multispectral System Simulation Model. Together, they provide a capability to compute synthetic inband radiance and data values for a sensor (with specified characteristics and locations) viewing specified surface reflectors (for which bidirectional reflectance characteristics can be computed) through homogeneous, isotropic atmospheric media of specified characteristics under specified solar illumination geometries (See Fig. 1).

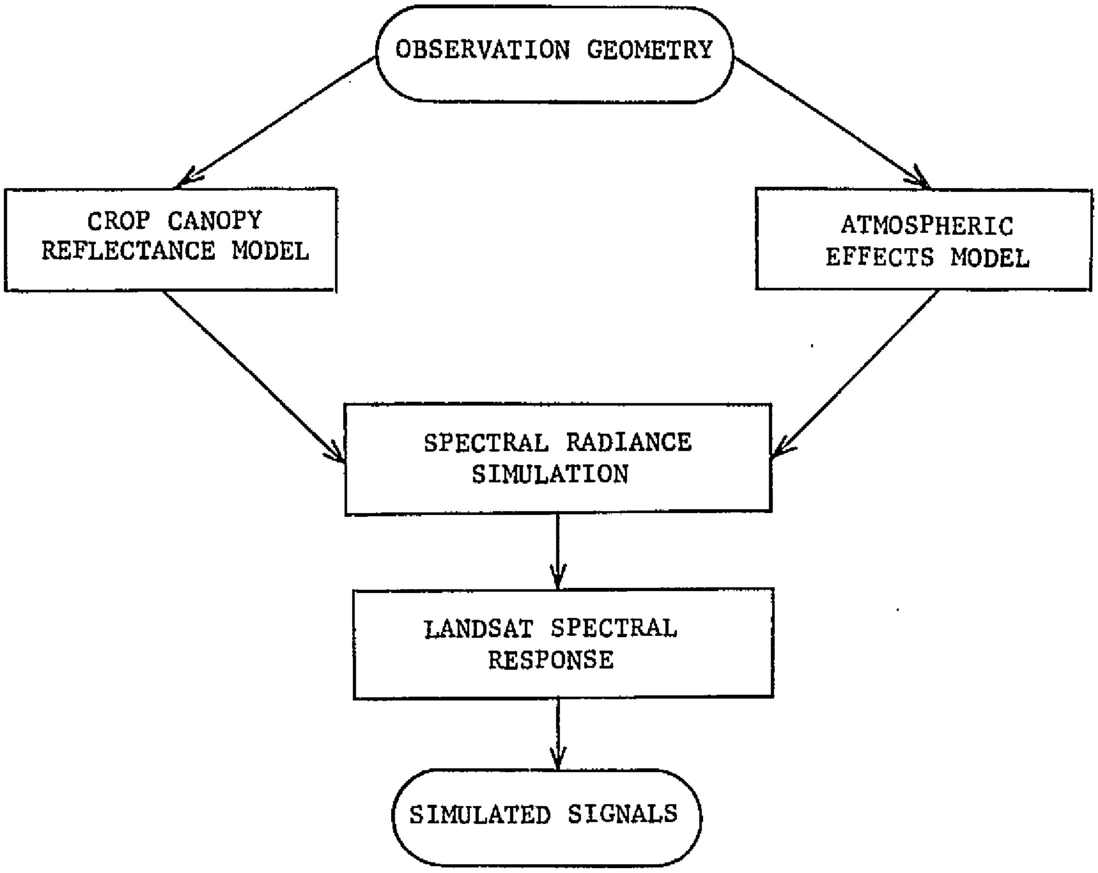


FIGURE 1. FLOW DIAGRAM FOR SIMULATION MODEL CALCULATIONS

Effective Landsat inband values were calculated for each of the following three groups of quantities:

(1) Inband atmospheric effects, including values representing (a) direct solar irradiance, (b) diffuse sky irradiance, (c) path transmittance, and (d) path radiance.

(2) Inband reflectances, both (a) bidirectional reflectance for reflection of direct solar radiation, and (b) diffuse reflectance for reflection of indirect solar radiation scattered by the atmosphere.

(3) Sensor inband radiances that combine the reflectance and atmospheric effects calculations.

The equations used for the simulation are discussed in Sec. 4, while Sec. 5 describes the crop canopy reflectance model and the radiative transfer model for atmospheric effects. The former section also presents the Landsat spectral characteristics which were simulated, while the latter section presents the model parameters used in simulating the signals arising from wheat fields at seven stages of growth throughout the growing season and a variety of atmospheric conditions.

4
SIMULATION EQUATIONS AND SENSOR RESPONSE FUNCTIONS

The basic equation used for computing the spectral radiance $L(\lambda)$ at the satellite is:

$$L(\lambda) = \frac{1}{\pi}\left(E^{\lambda}_{\mathrm{Direct}} \cdot \rho^{\lambda}_{\mathrm{BiDirect}} + E^{\lambda}_{\mathrm{Diffuse}} \cdot \rho^{\lambda}_{\mathrm{Diffuse}}\right) T^{\lambda} + L^{\lambda}_{\mathrm{Path}} \quad (1)$$

where $E^{\lambda}_{\mathrm{Direct}}$ is the direct (solar) spectral irradiance,

$E^{\lambda}_{\mathrm{Diffuse}}$ is the diffuse (sky) spectral irradiance,

$\rho^{\lambda}_{Bidirect}$ is the bidirectional spectral reflectance of the surface, relative to that of a perfect Lambertian surface,

$\rho^{\lambda}_{Diffuse}$ is the Lambertian (i.e., diffuse) spectral reflectance of the surface,

T^{λ} is the spectral transmittance of the atmosphere,

and L^{λ}_{Path} is the spectral path radiance.

These individual quantities also have varying degrees of dependence on the geometry of the situation, with the radiance itself depending on both the sun and view geometries. Of the spectral quantities in Eq. (1), all were computed with the Turner Radiative Transfer Model [4], except $\rho^{\lambda}_{Bidirect}$ and $\rho^{\lambda}_{Diffuse}$ which were computed with the Suits' Canopy Reflectance Model [5]. Sec. 5 describes these models in greater detail.

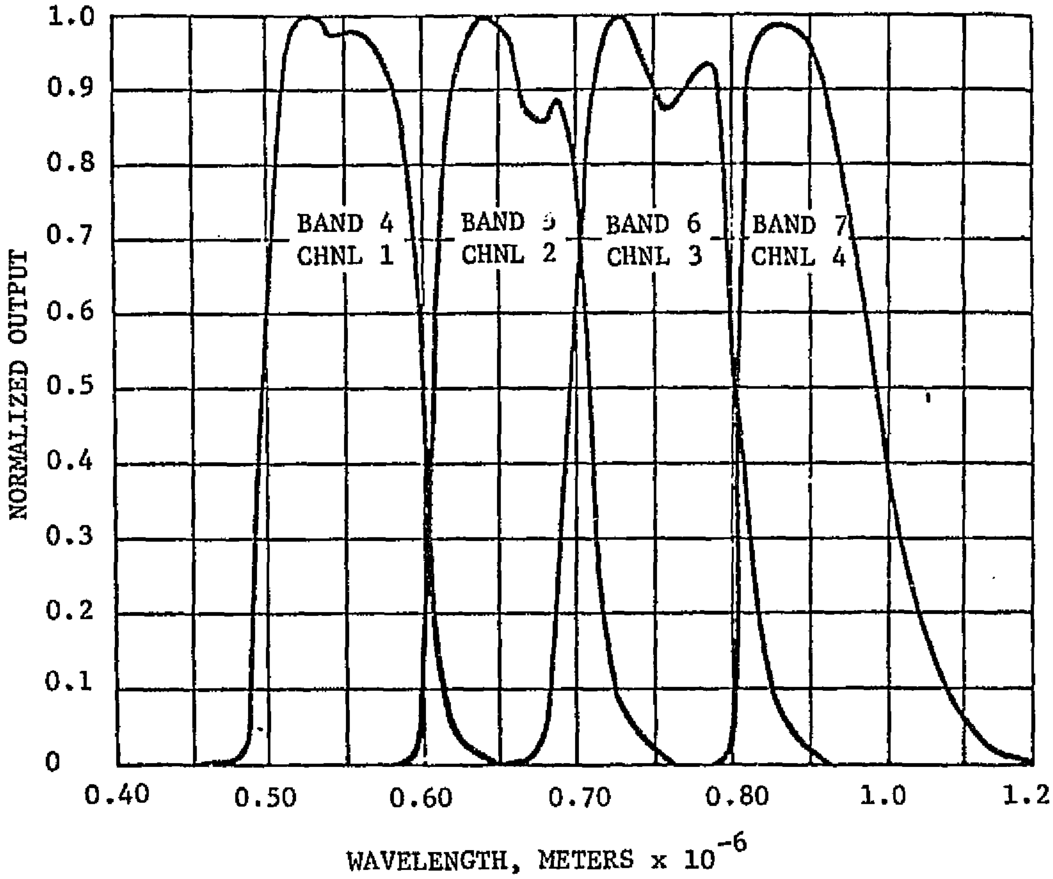
The effective inband radiance for Landsat Band i was obtained by integration, i.e.,

$$L_i = \int R_i(\lambda)L(\lambda)d\lambda \tag{2}$$

where $R_i(\lambda)$ is the relative spectral response function for Band i. The calculations were carried out with a spectral interval of 0.01 μm and a summation of products to replace the continuous integration indicated in Eq. (2). The Landsat spectral response curves [6] displayed in Fig. 2 were digitized at the stated intervals and used in the simulation calculations.

To obtain simulated Landsat signals, V_i, one would multiply the effective inband radiance values by band calibration factors, K_i, i.e.,

$$V_i = K_i\ L_i \tag{3}$$



Notes: (1) All bands were normalized individually; Band 7 values were re-normalized to 1.0 at the wavelength of the peak.

(2) Abscissa scale changes for Band 7 from that used for Band 6.

FIGURE 2. LANDSAT RELATIVE SPECTRAL RESPONSE [6]

The calibration factors found in the ERTS (Landsat) Data Users Handbook [7] represent pre-launch measurements for Landsat-1. Optical changes are known to have taken place shortly after the launch of Landsat-1, but accurate measures of their effects on system calibration are not available. Since selected calculations with these standard factors did not yield values which compare well with actual Landsat data, synthetic Landsat data values were not generated for presentation in this supplement.

5
DESCRIPTION OF MODELS AND MODEL PARAMETERS USED IN THE SIMULATION

Calculations of wheat canopy reflectances were made using the reflectance model developed by Dr. Gwynn Suits of ERIM [5]. It was used to compute two spectral quantities. The first was the bidirectional reflectance of the canopy, expressed in dimensionless units relative to the bidirectional reflectance ($1/\pi$) of a perfect Lambertian (perfect diffuse) surface. This bidirectional reflectance applies to a surface's reflection of direct sunlight toward the sensor. The second quantity computed was the diffuse reflectance or, more precisely, the hemispherical-directional reflectance, i.e., the fraction of incident radiation from a uniform hemispherical source (to approximate diffuse sky irradiance) that is reflected into the view direction of the sensor by a Lambertian surface.

The overall set of factors and levels used to generate the reflectance and atmospheric quantities is presented in Table 1. The 21 wheat canopy structures simulated had physical characteristics as summarized in Table 2. In addition, three soil reflectance spectra obtained from Condit [8] were used in the calculations (See Fig. 3). These correspond to his average soil reflectance spectrum and plus and minus one standard deviation from it. View angles corresponding to the nadir and $\pm 6^{\circ}$ (toward each side of the Landsat track) were

TABLE 1. FACTORS AND LEVELS FOR SIMULATION

WHEAT CANOPY REFLECTANCE CALCULATIONS

FACTOR	NO. LEVELS	LEVELS
Stage of Maturity	7	See Table II
Set of Spectral Properties	1	From ERIM 1975 Measurements
Soil Reflectance	3	Condit Average and ±1 Sigma
Canopy Density	3	See Table II
Sun Positions	2	For Each Period, for 38^{o} and 46^{o}N Latitude
View Angles	3	Nadir, $\pm 6^{o}$

ATMOSPHERIC FEATURE CALCULATIONS

FACTOR	NO. LEVELS	LEVELS
Background Albedo Spectrum	3	Bare, Green, Brown
Haze Level	3	Hazy, Moderately Hazy, Clear
Sun Positions	2	For Each Period, for 38^{o} and 46^{o}N Latitude
View Angles	3	Nadir, $\pm 6^{o}$

TABLE 2. CHARACTERISTICS OF WHEAT CANOPIES

CANOPY BASE NUMBER	SIMULATION DATE	STAGE OF GROWTH	TOTAL PERCENT COVER, FOR DENSITY:			GREEN LEAF AREA INDEX, FOR DENSITY:		
			LOW	BASE	HIGH	LOW	BASE	HIGH
1	Mid November	Emergent	3	14	25	0.10	0.52	1.04
2	Mid April	Jointing	11	44	69	0.41	2.06	4.12
3	Mid May	Pre-heading (Boot)	40	79	96	1.03	3.13	6.26
4	End May	Post-heading (Green)	43	82	97	1.03	3.13	6.26
5	Early June	Senescing	27	64	84	0.28	0.92	1.61
6	Late June	Ripe	14	40	59	0	0	0
7	Early July	Harvested	7	14	23	0	0	0

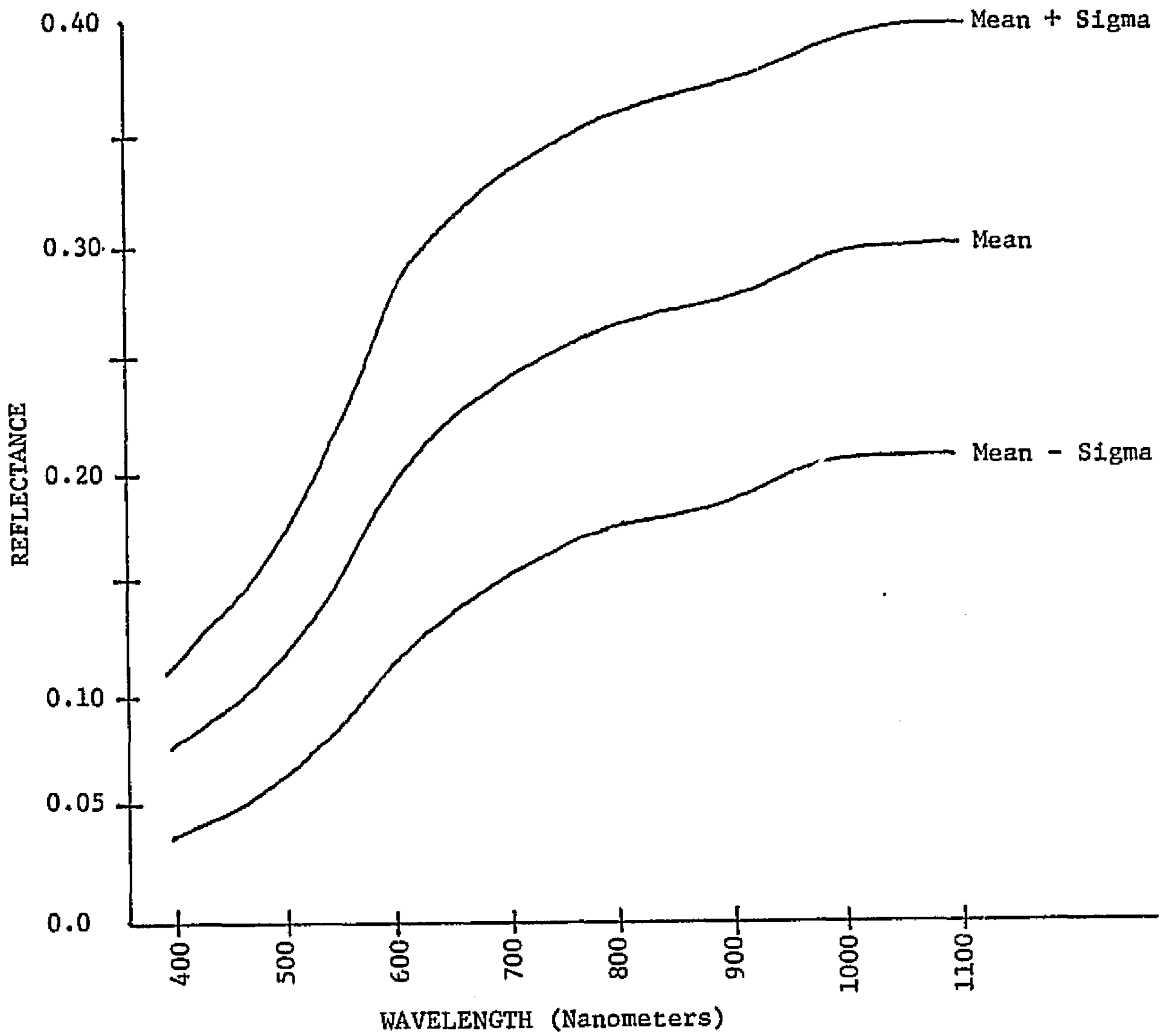


FIGURE 3. SOIL REFLECTANCE SPECTRA USED IN SIMULATION OF WHEAT CANOPY REFLECTANCES. (Soil spectra are based on the work of Condit [8].)

simulated, as well as sun angles for 38° and 46°N latitude for each time period. A set of 63 different canopies, each viewed under six different viewing and illumination geometries, was simulated for a total of 378 cases.

The spectral characteristics (transmittance and reflectance) of the various components of wheat (leaves, stems, and heads) were obtained from samples collected in Finney Co., Kansas, by an ERIM field team working under a Landsat follow-on contract (NAS5-22389 with the NASA Goddard Space Flight Center, Greenbelt, Md.) and measured with a laboratory instrument at ERIM. The structures assumed for the various growth stages were based largely on companion measurements by the ERIM field team, with reference being made to LACIE field measurement data. The high density canopies would be found only for the most healthy irrigated wheat fields in Kansas, while the more common, non-irrigated wheat fields would most likely fall between the low density and base density conditions.

Calculations of four atmospheric spectral properties were made with the radiative transfer model, developed by Dr. Robert Turner of ERIM [4], for sun positions and view geometries corresponding to those used for the canopy reflectance calculations. The quantities computed were both direct-solar and diffuse-sky spectral irradiance at the Earth's surface, path spectral transmittance from the surface to the satellite sensor, and path spectral radiance as observed by the sensor. The optical thickness spectra assumed for the atmosphere in the calculations (Table 3 and Fig. 4) were those associated with Elterman's standard atmospheres that are labeled by horizontal visual ranges of 4, 10, and 23 km for hazy, moderately hazy, and clear conditions, respectively. The three background albedo spectra used for the calculations (Table 3 and Fig. 5) are representative of bare soil (average), a green vegetation canopy, and a sparse brown (harvested wheat) vegetation canopy, respectively. Thus, for each sun position and view geometry, nine atmosphere cases were computed.

TABLE 3. BACKGROUND REFLECTANCE SPECTRA AND ATMOSPHERIC OPTICAL THICKNESS SPECTRA USED IN THE CALCULATIONS OF ATMOSPHERIC FEATURES

	BACKGROUND REFLECTANCE			OPTICAL THICKNESS (FOR INDICATED VISUAL RANGE)		
WAVELENGTH (Nanometers)	BARE	GREEN	HARVESTED	23 km	10 km	4 km
400	0.073	0.018	0.048	0.682	1.000	1.640
450	0.097	0.024	0.072	0.508	0.792	1.360
500	0.116	0.030	0.100	0.422	0.679	1.190
550	0.152	0.055	0.140	0.374	0.600	1.070
600	0.197	0.040	0.160	0.334	0.540	0.960
650	0.220	0.028	0.200	0.300	0.476	0.860
700	0.240	0.090	0.240	0.262	0.425	0.790
750	0.258	0.380	0.280	0.241	0.390	0.740
800	0.267	0.400	0.300	0.226	0.364	0.695
900	0.279	0.460	0.340	0.204	0.326	0.625
1000	0.299	0.450	0.360	0.197	0.300	0.580
1100	0.300	0.440	0.380	0.183	0.288	0.550

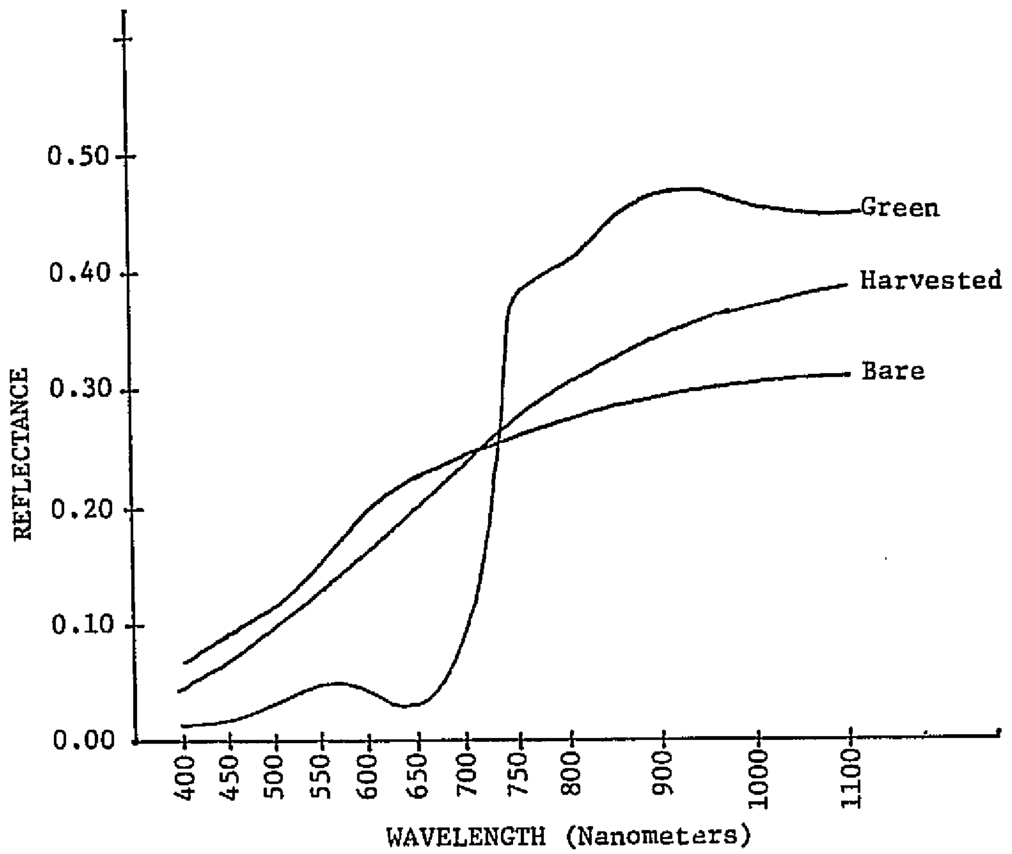


FIGURE 4. THE THREE BACKGROUND REFLECTANCE SPECTRA USED IN SIMULATING ATMOSPHERIC FEATURES

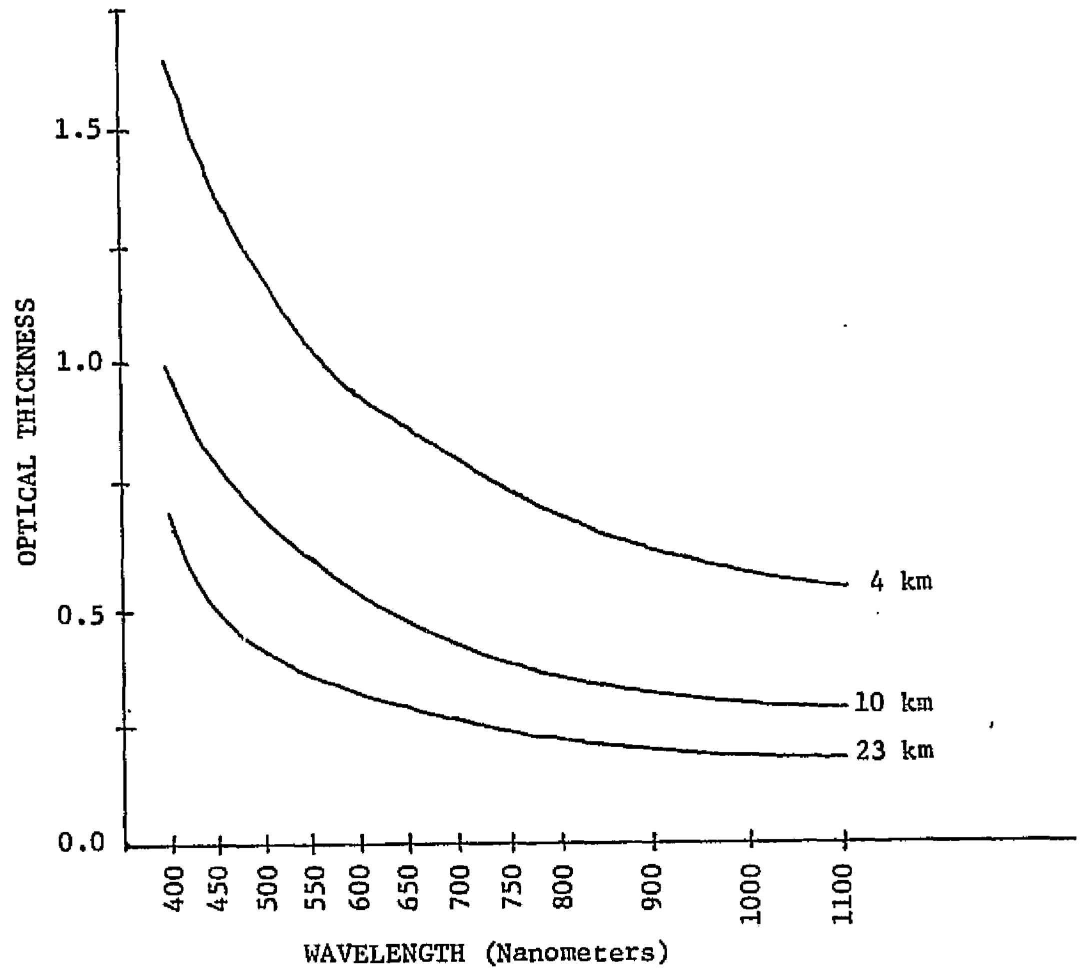


FIGURE 5. OPTICAL THICKNESS AS A FUNCTION OF WAVELENGTH FOR THE THREE MODEL ATMOSPHERES USED IN CALCULATING ATMOSPHERIC FEATURES

Then, the reflectance and atmospheric spectra were used with Eq. (1) to compute total radiance spectra at the satellite for 378 x 9 = 3402 cases.

Effective inband values were computed for each spectrum by multiplying it by the Landsat relative response functions and integrating over the appropriate wavelength interval. These inband values are presented in the appendices that follow. Concise summaries of these results and some initial analyses of them are presented in Ref. [1].

APPENDIX A
LANDSAT INBAND REFLECTANCES

Pages 17-33

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***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

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P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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*****************************************************************************
*                                                                           *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL      *
*                                                                           *
*                LANDSAT          INBAND REFLECTANCES                       *
*                                                                           *
*****************************************************************************
```


WHEAT FIELD REFLECTANCE SIMULATIONS FOR SEVEN STAGES OF GROWTH,
THREE DENSITIES, THREE SOIL BRIGHTNFSSES,
TWO LATITUDES, AND THREE VIEW ANGLFS

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL...........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

CANOPY PARAMETERS

BASE CANOPY ('BASE')

1 WHEAT, EMERGENT MID NOV
2 WHEAT, JOINTING MID APR
3 WHEAT, PRE-HEAD MID MAY
4 WHEAT, POST-HEAD END MAY
5 WHEAT, SENESCING MID JUN
6 WHEAT, RIPE END JUN
7 WHEAT, HARVESTED EARLY JUL

VIEW GEOMETRY

6 DEG WEST-LOOKING
0 NADIR
6 EAST-LOOKING

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT APPLICABLE IN ALL CASES

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	6	1	1	1	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.075	0.118	0.165	0.190
2	6	1	1	1	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.075	0.118	0.162	0.187
3	6	1	1	1	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.075	0.118	0.165	0.190
4	5	1	1	1	20	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.074	0.117	0.164	0.189
5	5	1	1	1	20	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.074	0.116	0.160	0.185
6	5	1	1	1	20	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.074	0.116	0.163	0.188
7	5	1	1	1	20	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.072	0.112	0.161	0.186
8	5	1	1	1	20	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.071	0.112	0.157	0.181
9	5	1	1	1	20	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.071	0.112	0.160	0.185
10	6	1	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.052	0.074	0.173	0.206
11	6	1	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.050	0.073	0.161	0.193
12	6	1	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.052	0.074	0.173	0.206
13	5	1	1	1	100	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.049	0.069	0.170	0.203
14	5	1	1	1	100	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.047	0.068	0.156	0.187
15	5	1	1	1	100	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.048	0.068	0.168	0.201
16	5	1	1	1	100	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.043	0.060	0.163	0.196
17	5	1	1	1	100	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.040	0.057	0.146	0.176
18	5	1	1	1	100	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.041	0.058	0.160	0.193
19	6	1	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.038	0.048	0.190	0.233
20	6	1	1	1	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.035	0.046	0.170	0.209
21	6	1	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.038	0.048	0.190	0.233
22	5	1	1	1	200	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.035	0.045	0.187	0.230
23	5	1	1	1	200	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.032	0.041	0.164	0.202
24	5	1	1	1	200	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.034	0.043	0.184	0.226
25	5	1	1	1	200	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.030	0.037	0.178	0.220
26	5	1	1	1	200	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.025	0.035	0.151	0.189
27	5	1	1	1	200	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.028	0.035	0.175	0.216
28	6	1	1	2	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.134	0.193	0.250	0.277
29	6	1	1	2	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.135	0.193	0.248	0.275
30	6	1	1	2	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.134	0.193	0.250	0.277
31	5	1	1	2	20	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.132	0.189	0.248	0.276
32	5	1	1	2	20	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.132	0.190	0.245	0.272
33	5	1	1	2	20	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.132	0.189	0.247	0.275
34	5	1	1	2	20	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.127	0.182	0.243	0.271
35	5	1	1	2	20	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.127	0.182	0.239	0.266
36	5	1	1	2	20	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.127	0.182	0.242	0.270
37	6	1	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.081	0.111	0.233	0.273
38	6	1	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.081	0.112	0.223	0.260
39	6	1	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.081	0.111	0.233	0.273
40	5	1	1	2	100	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.076	0.104	0.228	0.267
41	5	1	1	2	100	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.075	0.104	0.215	0.253
42	5	1	1	2	100	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.075	0.103	0.226	0.265
43	5	1	1	2	100	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.065	0.088	0.215	0.255
44	5	1	1	2	100	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.063	0.087	0.200	0.236

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	IC	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	5	1	1	2	100	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.064	0.087	0.213	0.252
46	6	1	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.050	0.064	0.231	0.281
47	6	1	1	2	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.049	0.064	0.212	0.259
48	6	1	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.050	0.064	0.231	0.281
49	5	1	1	2	200	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.046	0.058	0.225	0.275
50	5	1	1	2	200	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.043	0.056	0.203	0.249
51	5	1	1	2	200	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.044	0.057	0.222	0.271
52	5	1	1	2	200	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.037	0.047	0.211	0.260
53	5	1	1	2	200	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.033	0.043	0.186	0.231
54	5	1	1	2	200	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.036	0.045	0.208	0.257
55	6	1	1	3	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.194	0.267	0.336	0.366
56	6	1	1	3	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.194	0.268	0.334	0.364
57	6	1	1	3	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.194	0.267	0.336	0.366
58	5	1	1	3	20	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.191	0.262	0.333	0.363
59	5	1	1	3	20	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.191	0.263	0.330	0.360
60	5	1	1	3	20	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.190	0.262	0.332	0.363
61	5	1	1	3	20	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.183	0.252	0.326	0.357
62	5	1	1	3	20	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.183	0.252	0.322	0.352
63	5	1	1	3	20	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.183	0.251	0.325	0.356
64	6	1	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.111	0.149	0.297	0.343
65	6	1	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.112	0.151	0.288	0.332
66	6	1	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.111	0.149	0.297	0.343
67	5	1	1	3	100	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.104	0.139	0.288	0.335
68	5	1	1	3	100	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.103	0.140	0.277	0.321
69	5	1	1	3	100	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.102	0.137	0.286	0.332
70	5	1	1	3	100	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.088	0.117	0.270	0.317
71	5	1	1	3	100	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.086	0.116	0.256	0.300
72	5	1	1	3	100	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.086	0.115	0.268	0.314
73	6	1	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.063	0.081	0.274	0.333
74	6	1	1	3	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.062	0.081	0.258	0.313
75	6	1	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.063	0.081	0.274	0.333
76	5	1	1	3	200	0	0	0	61	6	50	122	0	0	0	0	0	0	0	0.057	0.072	0.265	0.323
77	5	1	1	3	200	0	0	0	61	0	50	118	0	0	0	0	0	0	0	0.055	0.071	0.246	0.300
78	5	1	1	3	200	0	0	0	61	6	129	114	0	0	0	0	0	0	0	0.055	0.071	0.262	0.320
79	5	1	1	3	200	0	0	0	67	6	54	115	0	0	0	0	0	0	0	0.045	0.056	0.247	0.304
80	5	1	1	3	200	0	0	0	67	0	54	112	0	0	0	0	0	0	0	0.041	0.054	0.223	0.276
81	5	1	1	3	200	0	0	0	67	6	126	108	0	0	0	0	0	0	0	0.043	0.055	0.244	0.300
82	6	2	1	1	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.056	0.082	0.170	0.201
83	6	2	1	1	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.055	0.082	0.160	0.190
84	6	2	1	1	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.056	0.082	0.170	0.201
85	5	2	1	1	20	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.067	0.099	0.182	0.213
86	5	2	1	1	20	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.067	0.100	0.176	0.207
87	5	2	1	1	20	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.066	0.098	0.180	0.212
88	5	2	1	1	20	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.065	0.096	0.179	0.211

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R F F	O PI TD	D PI DD	SZ UF NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	5	2	1	1	20	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.065	0.097	0.173	0.204
90	5	2	1	1	20	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.064	0.095	0.178	0.210
91	6	2	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.029	0.034	0.228	0.286
92	6	2	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.026	0.030	0.196	0.248
93	6	2	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.029	0.034	0.228	0.286
94	5	2	1	1	100	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.041	0.048	0.252	0.313
95	5	2	1	1	100	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.039	0.046	0.229	0.285
96	5	2	1	1	100	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.039	0.046	0.249	0.310
97	5	2	1	1	100	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.039	0.045	0.247	0.308
98	5	2	1	1	100	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.036	0.042	0.222	0.278
99	5	2	1	1	100	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.037	0.043	0.244	0.305
100	6	2	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.274	0.351
101	6	2	1	1	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.023	0.026	0.235	0.303
102	6	2	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.274	0.351
103	5	2	1	1	200	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.037	0.041	0.312	0.397
104	5	2	1	1	200	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.034	0.037	0.280	0.358
105	5	2	1	1	200	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.035	0.039	0.309	0.394
106	5	2	1	1	200	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.035	0.039	0.305	0.389
107	5	2	1	1	200	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.032	0.035	0.272	0.347
108	5	2	1	1	200	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.033	0.037	0.302	0.385
109	6	2	1	2	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.091	0.127	0.236	0.273
110	6	2	1	2	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.091	0.128	0.227	0.263
111	6	2	1	2	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.091	0.127	0.236	0.273
112	5	2	1	2	20	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.111	0.155	0.256	0.293
113	5	2	1	2	20	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.112	0.157	0.252	0.288
114	5	2	1	2	20	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.110	0.154	0.255	0.291
115	5	2	1	2	20	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.108	0.150	0.253	0.289
116	5	2	1	2	20	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.108	0.152	0.248	0.283
117	5	2	1	2	20	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.107	0.149	0.251	0.288
118	6	2	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.032	0.037	0.247	0.311
119	6	2	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.028	0.033	0.217	0.275
120	6	2	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.032	0.037	0.247	0.311
121	5	2	1	2	100	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.047	0.056	0.279	0.347
122	5	2	1	2	100	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.046	0.056	0.258	0.322
123	5	2	1	2	100	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.046	0.054	0.276	0.344
124	5	2	1	2	100	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.044	0.052	0.273	0.340
125	5	2	1	2	100	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.042	0.050	0.250	0.313
126	5	2	1	2	100	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.042	0.050	0.270	0.337
127	6	2	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.279	0.358
128	6	2	1	2	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.023	0.027	0.241	0.312
129	6	2	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.279	0.358
130	5	2	1	2	200	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.038	0.041	0.320	0.408
131	5	2	1	2	200	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.035	0.038	0.289	0.370
132	5	2	1	2	200	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.036	0.039	0.316	0.404

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATHO-SPHERIC CHARACT-ERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	H O N TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	5	2	1	2	200	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.036	0.039	0.312	0.398
134	5	2	1	2	200	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.032	0.035	0.279	0.358
135	5	2	1	2	200	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.034	0.037	0.309	0.395
136	6	2	1	3	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.127	0.171	0.304	0.347
137	6	2	1	3	20	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.128	0.174	0.297	0.338
138	6	2	1	3	20	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.127	0.171	0.304	0.347
139	5	2	1	3	20	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.155	0.210	0.333	0.376
140	5	2	1	3	20	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.158	0.214	0.331	0.372
141	5	2	1	3	20	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.154	0.209	0.332	0.374
142	5	2	1	3	20	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.150	0.204	0.328	0.371
143	5	2	1	3	20	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.152	0.207	0.325	0.366
144	5	2	1	3	20	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.149	0.203	0.327	0.369
145	6	2	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.040	0.268	0.339
146	6	2	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.037	0.240	0.306
147	6	2	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.040	0.268	0.339
148	5	2	1	3	100	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.054	0.064	0.309	0.385
149	5	2	1	3	100	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.053	0.065	0.291	0.363
150	5	2	1	3	100	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.052	0.062	0.306	0.382
151	5	2	1	3	100	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.049	0.059	0.301	0.376
152	5	2	1	3	100	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.048	0.059	0.281	0.352
153	5	2	1	3	100	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.047	0.057	0.298	0.373
154	6	2	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.284	0.366
155	6	2	1	3	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.024	0.027	0.248	0.321
156	6	2	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.028	0.031	0.284	0.366
157	5	2	1	3	200	0	0	0	38	6	28	146	0	0	0	0	0	0	0	0.038	0.042	0.328	0.420
158	5	2	1	3	200	0	0	0	38	0	28	141	0	0	0	0	0	0	0	0.035	0.039	0.299	0.384
159	5	2	1	3	200	0	0	0	38	6	151	136	0	0	0	0	0	0	0	0.036	0.040	0.325	0.416
160	5	2	1	3	200	0	0	0	42	6	37	142	0	0	0	0	0	0	0	0.036	0.040	0.319	0.409
161	5	2	1	3	200	0	0	0	42	0	37	137	0	0	0	0	0	0	0	0.033	0.036	0.288	0.371
162	5	2	1	3	200	0	0	0	42	6	142	132	0	0	0	0	0	0	0	0.034	0.038	0.316	0.406
163	6	3	1	1	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.050	0.219	0.280
164	6	3	1	1	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.038	0.048	0.203	0.261
165	6	3	1	1	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.050	0.219	0.280
166	5	3	1	1	32	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.055	0.070	0.238	0.299
167	5	3	1	1	32	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.054	0.070	0.231	0.290
168	5	3	1	1	32	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.054	0.069	0.237	0.298
169	5	3	1	1	32	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.053	0.068	0.236	0.297
170	5	3	1	1	32	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.053	0.068	0.228	0.287
171	5	3	1	1	32	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.052	0.067	0.235	0.296
172	6	3	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.289	0.400
173	6	3	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.036	0.267	0.372
174	6	3	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.289	0.400
175	5	3	1	1	100	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.045	0.050	0.325	0.443
176	5	3	1	1	100	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.044	0.049	0.313	0.427

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	LON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
177	5	3	1	1	100	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.044	0.050	0.324	0.443
178	5	3	1	1	100	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.044	0.049	0.321	0.440
179	5	3	1	1	100	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.043	0.048	0.309	0.423
180	5	3	1	1	100	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.043	0.048	0.320	0.439
181	6	3	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.309	0.442
182	6	3	1	1	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.035	0.288	0.416
183	6	3	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.309	0.442
184	5	3	1	1	200	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.044	0.050	0.355	0.505
185	5	3	1	1	200	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.043	0.048	0.344	0.492
186	5	3	1	1	200	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.044	0.049	0.354	0.505
187	5	3	1	1	200	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.043	0.048	0.350	0.499
188	5	3	1	1	200	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.042	0.047	0.339	0.484
189	5	3	1	1	200	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.042	0.048	0.350	0.499
190	6	3	1	2	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.049	0.062	0.251	0.321
191	6	3	1	2	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.048	0.061	0.237	0.304
192	6	3	1	2	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.049	0.062	0.251	0.321
193	5	3	1	2	32	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.071	0.091	0.282	0.352
194	5	3	1	2	32	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.072	0.094	0.277	0.345
195	5	3	1	2	32	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.071	0.090	0.281	0.351
196	5	3	1	2	32	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.069	0.088	0.279	0.349
197	5	3	1	2	32	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.070	0.090	0.273	0.341
198	5	3	1	2	32	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.068	0.087	0.278	0.348
199	6	3	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.294	0.408
200	6	3	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.036	0.273	0.381
201	6	3	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.294	0.408
202	5	3	1	2	100	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.046	0.051	0.332	0.456
203	5	3	1	2	100	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.045	0.051	0.321	0.441
204	5	3	1	2	100	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.045	0.051	0.331	0.455
205	5	3	1	2	100	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.044	0.050	0.328	0.452
206	5	3	1	2	100	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.043	0.049	0.317	0.436
207	5	3	1	2	100	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.044	0.049	0.328	0.451
208	6	3	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.309	0.443
209	6	3	1	2	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.035	0.289	0.417
210	6	3	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.309	0.443
211	5	3	1	2	200	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.044	0.050	0.356	0.507
212	5	3	1	2	200	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.043	0.048	0.345	0.493
213	5	3	1	2	200	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.044	0.049	0.355	0.506
214	5	3	1	2	200	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.043	0.048	0.351	0.500
215	5	3	1	2	200	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.042	0.047	0.339	0.486
216	5	3	1	2	200	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.042	0.048	0.350	0.500
217	6	3	1	3	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.058	0.073	0.286	0.366
218	6	3	1	3	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.057	0.073	0.274	0.350
219	6	3	1	3	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.058	0.073	0.286	0.366
220	5	3	1	3	32	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.088	0.113	0.329	0.409

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

CASE	ID	CANOPY PARAMETERS BASE	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS BREF	O PI TD	O PI DD	VIEW GEOMETRY SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	CANOPY CHARACTERISTICS I %L L U	V %I E W	T %C V R	G %C V R	TIME AND PLACE LAT	H U N TH	DAY	INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS) 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	5	3	1	3	32	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.091	0.117	0.326	0.404
222	5	3	1	3	32	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.088	0.112	0.328	0.408
223	5	3	1	3	32	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.085	0.109	0.325	0.405
224	5	3	1	3	32	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.087	0.112	0.321	0.399
225	5	3	1	3	32	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.084	0.108	0.324	0.404
226	6	3	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.299	0.418
227	6	3	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.036	0.278	0.392
228	6	3	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.299	0.418
229	5	3	1	3	100	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.046	0.053	0.341	0.470
230	5	3	1	3	100	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.046	0.052	0.331	0.457
231	5	3	1	3	100	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.046	0.052	0.340	0.470
232	5	3	1	3	100	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.045	0.051	0.336	0.465
233	5	3	1	3	100	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.044	0.050	0.326	0.451
234	5	3	1	3	100	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.044	0.050	0.336	0.464
235	6	3	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.310	0.444
236	6	3	1	3	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.035	0.289	0.418
237	6	3	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.039	0.310	0.444
238	5	3	1	3	200	0	0	0	31	6	18	154	0	0	0	0	0	0	0	0.044	0.050	0.356	0.508
239	5	3	1	3	200	0	0	0	31	0	18	148	0	0	0	0	0	0	0	0.043	0.048	0.346	0.495
240	5	3	1	3	200	0	0	0	31	6	161	143	0	0	0	0	0	0	0	0.044	0.049	0.355	0.507
241	5	3	1	3	200	0	0	0	34	6	31	150	0	0	0	0	0	0	0	0.043	0.048	0.351	0.502
242	5	3	1	3	200	0	0	0	34	0	31	145	0	0	0	0	0	0	0	0.042	0.047	0.340	0.487
243	5	3	1	3	200	0	0	0	34	6	148	140	0	0	0	0	0	0	0	0.042	0.048	0.351	0.501
244	6	4	1	1	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.046	0.217	0.282
245	6	4	1	1	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.036	0.045	0.201	0.262
246	6	4	1	1	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.046	0.217	0.282
247	5	4	1	1	32	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.054	0.067	0.241	0.306
248	5	4	1	1	32	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.054	0.068	0.234	0.297
249	5	4	1	1	32	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.053	0.066	0.239	0.304
250	5	4	1	1	32	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.053	0.066	0.239	0.304
251	5	4	1	1	32	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.053	0.066	0.232	0.294
252	5	4	1	1	32	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.052	0.065	0.237	0.302
253	6	4	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.275	0.385
254	6	4	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.034	0.254	0.358
255	6	4	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.275	0.385
256	5	4	1	1	100	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.046	0.050	0.316	0.436
257	5	4	1	1	100	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.045	0.049	0.305	0.421
258	5	4	1	1	100	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.045	0.049	0.314	0.434
259	5	4	1	1	100	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.045	0.049	0.313	0.432
260	5	4	1	1	100	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.044	0.048	0.302	0.417
261	5	4	1	1	100	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.044	0.048	0.311	0.430
262	6	4	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.409
263	6	4	1	1	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.034	0.266	0.384
264	6	4	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.409

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	S7 UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	5	4	1	1	200	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.045	0.049	0.335	0.475
266	5	4	1	1	200	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.044	0.048	0.325	0.462
267	5	4	1	1	200	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.044	0.046	0.333	0.473
268	5	4	1	1	200	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.044	0.048	0.331	0.470
269	5	4	1	1	200	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.043	0.047	0.321	0.456
270	5	4	1	1	200	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.043	0.047	0.329	0.468
271	6	4	1	2	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.046	0.056	0.245	0.318
272	6	4	1	2	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.044	0.055	0.231	0.300
273	6	4	1	2	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.046	0.056	0.245	0.318
274	5	4	1	2	32	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.069	0.086	0.280	0.354
275	5	4	1	2	32	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.070	0.089	0.275	0.347
276	5	4	1	2	32	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.068	0.085	0.279	0.353
277	5	4	1	2	32	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.067	0.084	0.278	0.352
278	5	4	1	2	32	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.068	0.086	0.272	0.344
279	5	4	1	2	32	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.066	0.083	0.276	0.350
280	6	4	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.278	0.390
281	6	4	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.035	0.258	0.364
282	6	4	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.278	0.390
283	5	4	1	2	100	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.046	0.051	0.321	0.445
284	5	4	1	2	100	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.046	0.050	0.311	0.431
285	5	4	1	2	100	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.045	0.050	0.320	0.443
286	5	4	1	2	100	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.045	0.049	0.318	0.441
287	5	4	1	2	100	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.044	0.049	0.307	0.426
288	5	4	1	2	100	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.044	0.048	0.316	0.439
289	6	4	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.410
290	6	4	1	2	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.034	0.267	0.384
291	6	4	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.410
292	5	4	1	2	200	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.045	0.049	0.335	0.476
293	5	4	1	2	200	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.044	0.048	0.325	0.463
294	5	4	1	2	200	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.044	0.048	0.333	0.473
295	5	4	1	2	200	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.044	0.048	0.331	0.470
296	5	4	1	2	200	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.043	0.047	0.321	0.457
297	5	4	1	2	200	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.043	0.047	0.330	0.468
298	6	4	1	3	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.053	0.065	0.275	0.358
299	6	4	1	3	32	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.052	0.065	0.262	0.341
300	6	4	1	3	32	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.053	0.065	0.275	0.358
301	5	4	1	3	32	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.084	0.105	0.323	0.407
302	5	4	1	3	32	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.086	0.109	0.320	0.402
303	5	4	1	3	32	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.083	0.104	0.321	0.405
304	5	4	1	3	32	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.081	0.102	0.319	0.403
305	5	4	1	3	32	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.083	0.106	0.315	0.398
306	5	4	1	3	32	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.080	0.101	0.317	0.401
307	6	4	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.282	0.396
308	6	4	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.035	0.261	0.371

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	6	4	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.282	0.396
310	5	4	1	3	100	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.047	0.051	0.327	0.454
311	5	4	1	3	100	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.046	0.051	0.318	0.442
312	5	4	1	3	100	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.046	0.050	0.325	0.452
313	5	4	1	3	100	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.046	0.050	0.323	0.450
314	5	4	1	3	100	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.045	0.049	0.313	0.437
315	5	4	1	3	100	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.044	0.049	0.322	0.448
316	6	4	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.410
317	6	4	1	3	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.031	0.034	0.267	0.384
318	6	4	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.034	0.038	0.287	0.410
319	5	4	1	3	200	0	0	0	29	6	13	156	0	0	0	0	0	0	0	0.045	0.049	0.336	0.476
320	5	4	1	3	200	0	0	0	29	0	13	150	0	0	0	0	0	0	0	0.044	0.048	0.326	0.463
321	5	4	1	3	200	0	0	0	29	6	166	144	0	0	0	0	0	0	0	0.044	0.048	0.334	0.474
322	5	4	1	3	200	0	0	0	31	6	27	153	0	0	0	0	0	0	0	0.044	0.048	0.332	0.471
323	5	4	1	3	200	0	0	0	31	0	27	148	0	0	0	0	0	0	0	0.043	0.047	0.321	0.457
324	5	4	1	3	200	0	0	0	31	6	152	142	0	0	0	0	0	0	0	0.043	0.047	0.330	0.469
325	6	5	1	1	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.051	0.073	0.170	0.219
326	6	5	1	1	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.048	0.071	0.159	0.205
327	6	5	1	1	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.051	0.073	0.170	0.219
328	5	5	1	1	30	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.069	0.102	0.199	0.248
329	5	5	1	1	30	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.069	0.102	0.194	0.242
330	5	5	1	1	30	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.068	0.099	0.195	0.245
331	5	5	1	1	30	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.068	0.100	0.197	0.247
332	5	5	1	1	30	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.068	0.100	0.192	0.240
333	5	5	1	1	30	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.066	0.098	0.194	0.243
334	6	5	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.049	0.209	0.299
335	6	5	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.036	0.045	0.190	0.274
336	6	5	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.049	0.209	0.299
337	5	5	1	1	100	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.056	0.070	0.241	0.334
338	5	5	1	1	100	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.055	0.069	0.231	0.320
339	5	5	1	1	100	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.054	0.068	0.237	0.330
340	5	5	1	1	100	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.054	0.069	0.238	0.331
341	5	5	1	1	100	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.053	0.067	0.228	0.316
342	5	5	1	1	100	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.053	0.066	0.235	0.327
343	6	5	1	1	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.229	0.341
344	6	5	1	1	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.035	0.043	0.210	0.315
345	6	5	1	1	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.229	0.341
346	5	5	1	1	175	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.053	0.064	0.266	0.386
347	5	5	1	1	175	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.052	0.063	0.256	0.371
348	5	5	1	1	175	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.052	0.062	0.263	0.382
349	5	5	1	1	175	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.052	0.063	0.263	0.383
350	5	5	1	1	175	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.051	0.061	0.253	0.367
351	5	5	1	1	175	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.050	0.061	0.260	0.379
352	6	5	1	2	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.068	0.096	0.207	0.262

***** OUTPUT CALCULATIONS FROM ERTM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZFEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MUNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	6	5	1	2	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.066	0.095	0.197	0.250
354	6	5	1	2	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.068	0.096	0.207	0.262
355	5	5	1	2	30	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.098	0.139	0.250	0.307
356	5	5	1	2	30	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.099	0.141	0.247	0.303
357	5	5	1	2	30	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.096	0.137	0.247	0.304
358	5	5	1	2	30	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.096	0.136	0.247	0.304
359	5	5	1	2	30	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.097	0.138	0.244	0.299
360	5	5	1	2	30	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.094	0.134	0.244	0.301
361	6	5	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.050	0.213	0.307
362	6	5	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.036	0.046	0.195	0.282
363	6	5	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.050	0.213	0.307
364	5	5	1	2	100	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.059	0.075	0.250	0.347
365	5	5	1	2	100	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.058	0.074	0.241	0.334
366	5	5	1	2	100	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.057	0.072	0.246	0.343
367	5	5	1	2	100	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.057	0.072	0.246	0.344
368	5	5	1	2	100	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.056	0.072	0.237	0.330
369	5	5	1	2	100	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.055	0.070	0.243	0.340
370	6	5	1	2	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.230	0.342
371	6	5	1	2	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.035	0.043	0.211	0.316
372	6	5	1	2	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.230	0.342
373	5	5	1	2	175	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.053	0.065	0.267	0.388
374	5	5	1	2	175	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.052	0.063	0.257	0.373
375	5	5	1	2	175	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.052	0.063	0.264	0.384
376	5	5	1	2	175	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.052	0.063	0.264	0.385
377	5	5	1	2	175	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.051	0.062	0.254	0.369
378	5	5	1	2	175	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.051	0.061	0.261	0.381
379	6	5	1	3	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.085	0.119	0.245	0.309
380	6	5	1	3	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.084	0.119	0.236	0.297
381	6	5	1	3	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.085	0.119	0.245	0.309
382	5	5	1	3	30	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.126	0.177	0.304	0.370
383	5	5	1	3	30	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.129	0.181	0.303	0.367
384	5	5	1	3	30	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.124	0.175	0.301	0.366
385	5	5	1	3	30	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.123	0.173	0.300	0.366
386	5	5	1	3	30	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.126	0.177	0.299	0.363
387	5	5	1	3	30	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.122	0.171	0.297	0.362
388	6	5	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.051	0.217	0.315
389	6	5	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.037	0.047	0.200	0.292
390	6	5	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.040	0.051	0.217	0.315
391	5	5	1	3	100	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.061	0.079	0.259	0.361
392	5	5	1	3	100	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.062	0.079	0.251	0.350
393	5	5	1	3	100	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.060	0.076	0.255	0.357
394	5	5	1	3	100	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.060	0.076	0.255	0.357
395	5	5	1	3	100	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.059	0.076	0.247	0.346
396	5	5	1	3	100	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.058	0.074	0.252	0.353

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	R A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	6	5	1	3	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.230	0.343
398	6	5	1	3	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.035	0.043	0.211	0.318
399	6	5	1	3	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.039	0.048	0.230	0.343
400	5	5	1	3	175	0	0	0	28	6	11	156	0	0	0	0	0	0	0	0.054	0.065	0.268	0.390
401	5	5	1	3	175	0	0	0	28	0	11	151	0	0	0	0	0	0	0	0.053	0.064	0.259	0.376
402	5	5	1	3	175	0	0	0	28	6	168	145	0	0	0	0	0	0	0	0.052	0.063	0.265	0.386
403	5	5	1	3	175	0	0	0	31	6	25	154	0	0	0	0	0	0	0	0.052	0.064	0.265	0.387
404	5	5	1	3	175	0	0	0	31	0	25	148	0	0	0	0	0	0	0	0.051	0.062	0.255	0.372
405	5	5	1	3	175	0	0	0	31	6	154	143	0	0	0	0	0	0	0	0.051	0.062	0.262	0.383
406	6	6	1	1	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.072	0.118	0.155	0.187
407	6	6	1	1	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.070	0.114	0.149	0.179
408	6	6	1	1	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.072	0.118	0.155	0.187
409	5	6	1	1	30	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.089	0.142	0.182	0.216
410	5	6	1	1	30	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.087	0.139	0.179	0.211
411	5	6	1	1	30	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.085	0.137	0.177	0.211
412	5	6	1	1	30	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.088	0.141	0.181	0.215
413	5	6	1	1	30	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.086	0.138	0.177	0.210
414	5	6	1	1	30	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.084	0.136	0.176	0.209
415	6	6	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.065	0.105	0.145	0.184
416	6	6	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.060	0.096	0.133	0.168
417	6	6	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.065	0.105	0.145	0.184
418	5	6	1	1	100	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.093	0.147	0.197	0.245
419	5	6	1	1	100	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.090	0.141	0.189	0.234
420	5	6	1	1	100	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.086	0.137	0.186	0.232
421	5	6	1	1	100	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.092	0.144	0.194	0.241
422	5	6	1	1	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.088	0.138	0.186	0.230
423	5	6	1	1	100	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.085	0.135	0.183	0.229
424	6	6	1	1	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.067	0.106	0.147	0.187
425	6	6	1	1	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.061	0.096	0.133	0.170
426	6	6	1	1	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.067	0.106	0.147	0.187
427	5	6	1	1	175	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.096	0.149	0.201	0.251
428	5	6	1	1	175	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.092	0.142	0.191	0.239
429	5	6	1	1	175	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.088	0.137	0.187	0.237
430	5	6	1	1	175	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.094	0.146	0.197	0.247
431	5	6	1	1	175	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.090	0.138	0.187	0.234
432	5	6	1	1	175	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.086	0.134	0.184	0.232
433	6	6	1	2	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.105	0.163	0.208	0.245
434	6	6	1	2	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.104	0.160	0.203	0.238
435	6	6	1	2	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.105	0.163	0.208	0.245
436	5	6	1	2	30	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.133	0.201	0.249	0.287
437	5	6	1	2	30	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.132	0.200	0.246	0.284
438	5	6	1	2	30	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.129	0.196	0.243	0.281
439	5	6	1	2	30	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.131	0.199	0.246	0.285
440	5	6	1	2	30	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.131	0.197	0.244	0.282

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMO-SPHERIC CHARACT-ERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	R R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	5	6	1	2	30	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.128	0.194	0.241	0.279
442	6	6	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.070	0.113	0.157	0.199
443	6	6	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.066	0.105	0.146	0.185
444	6	6	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.070	0.113	0.157	0.199
445	5	6	1	2	100	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.107	0.167	0.222	0.275
446	5	6	1	2	100	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.105	0.163	0.216	0.267
447	5	6	1	2	100	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.100	0.157	0.211	0.263
448	5	6	1	2	100	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.105	0.163	0.218	0.270
449	5	6	1	2	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.102	0.159	0.212	0.262
450	5	6	1	2	100	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.098	0.153	0.207	0.258
451	6	6	1	2	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.067	0.107	0.149	0.191
452	6	6	1	2	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.062	0.098	0.136	0.175
453	6	6	1	2	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.067	0.107	0.149	0.191
454	5	6	1	2	175	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.100	0.154	0.208	0.262
455	5	6	1	2	175	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.096	0.148	0.200	0.251
456	5	6	1	2	175	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.092	0.143	0.195	0.247
457	5	6	1	2	175	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.098	0.151	0.204	0.256
458	5	6	1	2	175	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.094	0.144	0.195	0.245
459	5	6	1	2	175	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.089	0.140	0.191	0.242
460	6	6	1	3	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.139	0.209	0.262	0.305
461	6	6	1	3	30	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.138	0.207	0.258	0.299
462	6	6	1	3	30	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.139	0.209	0.262	0.305
463	5	6	1	3	30	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.177	0.260	0.317	0.361
464	5	6	1	3	30	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.178	0.261	0.316	0.360
465	5	6	1	3	30	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.174	0.256	0.311	0.355
466	5	6	1	3	30	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.175	0.258	0.314	0.358
467	5	6	1	3	30	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.176	0.258	0.313	0.356
468	5	6	1	3	30	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.172	0.253	0.308	0.353
469	6	6	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.076	0.122	0.169	0.216
470	6	6	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.072	0.115	0.159	0.203
471	6	6	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.076	0.122	0.169	0.216
472	5	6	1	3	100	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.121	0.187	0.249	0.308
473	5	6	1	3	100	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.120	0.185	0.245	0.303
474	5	6	1	3	100	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.114	0.177	0.238	0.296
475	5	6	1	3	100	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.118	0.182	0.244	0.302
476	5	6	1	3	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.117	0.180	0.239	0.296
477	5	6	1	3	100	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.111	0.173	0.232	0.290
478	6	6	1	3	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.068	0.108	0.151	0.195
479	6	6	1	3	175	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.063	0.099	0.139	0.180
480	6	6	1	3	175	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.068	0.108	0.151	0.195
481	5	6	1	3	175	0	0	0	29	6	9	156	0	0	0	0	0	0	0	0.104	0.160	0.217	0.273
482	5	6	1	3	175	0	0	0	29	0	9	150	0	0	0	0	0	0	0	0.101	0.155	0.210	0.264
483	5	6	1	3	175	0	0	0	29	6	170	144	0	0	0	0	0	0	0	0.095	0.149	0.203	0.259
484	5	6	1	3	175	0	0	0	31	6	24	154	0	0	0	0	0	0	0	0.101	0.156	0.212	0.267

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *****   00:13:34 04-21-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
485	5	6	1	3	175	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.098	0.151	0.204	0.258
486	5	6	1	3	175	0	0	0	31	6	155	143	0	0	0	0	0	0	0	0.093	0.145	0.198	0.253
487	6	7	1	1	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.076	0.125	0.161	0.192
488	6	7	1	1	50	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.075	0.123	0.157	0.187
489	6	7	1	1	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.076	0.125	0.161	0.192
490	5	7	1	1	50	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.086	0.139	0.175	0.206
491	5	7	1	1	50	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.085	0.137	0.173	0.203
492	5	7	1	1	50	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.084	0.136	0.172	0.203
493	5	7	1	1	50	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.085	0.138	0.174	0.205
494	5	7	1	1	50	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.084	0.136	0.172	0.202
495	5	7	1	1	50	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.084	0.135	0.171	0.202
496	6	7	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.071	0.118	0.159	0.197
497	6	7	1	1	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.068	0.114	0.152	0.188
498	6	7	1	1	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.071	0.118	0.159	0.197
499	5	7	1	1	100	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.087	0.141	0.183	0.221
500	5	7	1	1	100	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.085	0.138	0.179	0.216
501	5	7	1	1	100	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.084	0.136	0.178	0.216
502	5	7	1	1	100	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.086	0.140	0.182	0.220
503	5	7	1	1	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.084	0.137	0.178	0.214
504	5	7	1	1	100	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.083	0.135	0.177	0.214
505	6	7	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.064	0.110	0.158	0.209
506	6	7	1	1	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.060	0.103	0.147	0.194
507	6	7	1	1	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.064	0.110	0.158	0.209
508	5	7	1	1	200	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.088	0.143	0.195	0.246
509	5	7	1	1	200	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.085	0.139	0.188	0.236
510	5	7	1	1	200	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.083	0.136	0.187	0.237
511	5	7	1	1	200	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.086	0.141	0.193	0.244
512	5	7	1	1	200	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.084	0.137	0.186	0.234
513	5	7	1	1	200	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.081	0.134	0.185	0.235
514	6	7	1	2	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.124	0.188	0.231	0.267
515	6	7	1	2	50	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.124	0.187	0.229	0.263
516	6	7	1	2	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.124	0.188	0.231	0.267
517	5	7	1	2	50	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.141	0.211	0.254	0.289
518	5	7	1	2	50	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.141	0.210	0.253	0.287
519	5	7	1	2	50	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.139	0.208	0.251	0.286
520	5	7	1	2	50	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.140	0.209	0.253	0.288
521	5	7	1	2	50	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.140	0.209	0.251	0.286
522	5	7	1	2	50	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.139	0.207	0.250	0.284
523	6	7	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.103	0.164	0.213	0.258
524	6	7	1	2	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.102	0.160	0.207	0.250
525	6	7	1	2	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.103	0.164	0.213	0.258
526	5	7	1	2	100	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.130	0.199	0.250	0.294
527	5	7	1	2	100	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.130	0.198	0.247	0.290
528	5	7	1	2	100	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.127	0.195	0.244	0.288

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:13:34 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND REFLECTANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTD	OPOD	SZUNN	VZIFEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
529	5	7	1	2	100	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.129	0.197	0.247	0.292
530	5	7	1	2	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.129	0.196	0.245	0.288
531	5	7	1	2	100	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.126	0.193	0.242	0.286
532	6	7	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.080	0.133	0.189	0.248
533	6	7	1	2	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.077	0.128	0.180	0.235
534	6	7	1	2	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.080	0.133	0.189	0.248
535	5	7	1	2	200	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.114	0.181	0.240	0.299
536	5	7	1	2	200	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.113	0.178	0.236	0.292
537	5	7	1	2	200	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.109	0.173	0.232	0.291
538	5	7	1	2	200	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.112	0.178	0.237	0.296
539	5	7	1	2	200	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.111	0.175	0.232	0.289
540	5	7	1	2	200	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.107	0.170	0.229	0.288
541	6	7	1	3	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.173	0.252	0.303	0.344
542	6	7	1	3	50	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.173	0.252	0.301	0.341
543	6	7	1	3	50	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.173	0.252	0.303	0.344
544	5	7	1	3	50	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.197	0.283	0.334	0.374
545	5	7	1	3	50	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.198	0.284	0.334	0.373
546	5	7	1	3	50	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.195	0.281	0.331	0.371
547	5	7	1	3	50	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.196	0.282	0.333	0.372
548	5	7	1	3	50	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.197	0.282	0.332	0.371
549	5	7	1	3	50	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.194	0.279	0.330	0.369
550	6	7	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.137	0.210	0.268	0.321
551	6	7	1	3	100	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.136	0.208	0.264	0.315
552	6	7	1	3	100	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.137	0.210	0.268	0.321
553	5	7	1	3	100	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.175	0.258	0.318	0.369
554	5	7	1	3	100	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.176	0.259	0.317	0.367
555	5	7	1	3	100	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.171	0.254	0.313	0.364
556	5	7	1	3	100	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.172	0.256	0.315	0.366
557	5	7	1	3	100	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.173	0.256	0.314	0.364
558	5	7	1	3	100	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.169	0.251	0.310	0.361
559	6	7	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.095	0.157	0.221	0.290
560	6	7	1	3	200	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0.093	0.153	0.213	0.278
561	6	7	1	3	200	0	0	0	57	6	0	0	0	0	0	0	0	0	0	0.095	0.157	0.221	0.290
562	5	7	1	3	200	0	0	0	29	6	10	155	0	0	0	0	0	0	0	0.141	0.219	0.288	0.356
563	5	7	1	3	200	0	0	0	29	0	10	150	0	0	0	0	0	0	0	0.142	0.219	0.286	0.352
564	5	7	1	3	200	0	0	0	29	6	169	144	0	0	0	0	0	0	0	0.136	0.212	0.280	0.348
565	5	7	1	3	200	0	0	0	31	6	24	153	0	0	0	0	0	0	0	0.139	0.215	0.284	0.352
566	5	7	1	3	200	0	0	0	31	0	24	148	0	0	0	0	0	0	0	0.139	0.215	0.281	0.347
567	5	7	1	3	200	0	0	0	31	6	155	142	0	0	0	0	0	0	0	0.133	0.208	0.276	0.344

APPENDIX B
LANDSAT INBAND ATMOSPHERIC FEATURES

Pages 34-72

00:14:29 04-21-76

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL

LANDSAT INBAND ATMOSPHERIC FEATURES

ATMOSPHERIC EFFECTS FOR SIMULATIONS OF WHEAT RADIANCES AT SEVEN STAGES OF GROWTH, THREE HAZE LEVELS, THREE BACKGROUND ALBEDOS, TWO LATITUDES, AND THREE VIEW ANGLES

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

ATMOSPHERIC PARAMETERS

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
  BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

VIEW ZENITH

6 DEG WEST-LOOKING
0 NADIR
6 EAST-LOOKING

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
  FOR 38N: 61,38,31,29,28,29,29 DEG
  FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 DATES CONSIDERED:
  MID NOV, MID APR, MID MAY,
  END MAY, MID JUN, END JUN,
  EARLY JULY, RESPECTIVELY

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT
  APPLICABLE IN ALL CASES

ORIGINAL PAGE IS
OF POOR QUALITY

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	D PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	1	0	0	0	0	1	23	1	61	6	50	122	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
2	2	0	0	0	0	1	23	1	61	6	50	122	0	0	0	0	0	11	15	3.776	2.910	2.424	2.567
3	3	0	0	0	0	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
4	4	0	0	0	0	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.233	0.151	0.117	0.114
5	1	0	0	0	0	1	23	1	61	0	50	118	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
6	2	0	0	0	0	1	23	1	61	0	50	118	0	0	0	0	0	11	15	3.776	2.910	2.424	2.567
7	3	0	0	0	0	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.687	0.747	0.787	0.815
8	4	0	0	0	0	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.224	0.147	0.114	0.112
9	1	0	0	0	0	1	23	1	61	6	129	114	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
10	2	0	0	0	0	1	23	1	61	6	129	114	0	0	0	0	0	11	15	3.776	2.910	2.424	2.567
11	3	0	0	0	0	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
12	4	0	0	0	0	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.219	0.146	0.114	0.113
13	1	0	0	0	0	1	23	1	67	6	54	115	0	0	0	0	0	11	15	2.538	2.661	2.856	3.664
14	2	0	0	0	0	1	23	1	67	6	54	115	0	0	0	0	0	11	15	3.392	2.674	2.261	2.420
15	3	0	0	0	0	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
16	4	0	0	0	0	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.209	0.134	0.102	0.100
17	1	0	0	0	0	1	23	1	67	0	54	112	0	0	0	0	0	11	15	2.538	2.661	2.856	3.664
18	2	0	0	0	0	1	23	1	67	0	54	112	0	0	0	0	0	11	15	3.392	2.674	2.261	2.420
19	3	0	0	0	0	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.687	0.747	0.787	0.815
20	4	0	0	0	0	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.203	0.131	0.101	0.099
21	1	0	0	0	0	1	23	1	67	6	126	108	0	0	0	0	0	11	15	2.538	2.661	2.856	3.664
22	2	0	0	0	0	1	23	1	67	6	126	108	0	0	0	0	0	11	15	3.392	2.674	2.261	2.420
23	3	0	0	0	0	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
24	4	0	0	0	0	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.200	0.131	0.101	0.100
25	1	0	0	0	0	2	23	1	61	6	50	122	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
26	2	0	0	0	0	2	23	1	61	6	50	122	0	0	0	0	0	11	15	3.687	2.835	2.435	2.602
27	3	0	0	0	0	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
28	4	0	0	0	0	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.192	0.104	0.128	0.153
29	1	0	0	0	0	2	23	1	61	0	50	118	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
30	2	0	0	0	0	2	23	1	61	0	50	118	0	0	0	0	0	11	15	3.687	2.835	2.435	2.602
31	3	0	0	0	0	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.687	0.747	0.787	0.815
32	4	0	0	0	0	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.183	0.100	0.125	0.151
33	1	0	0	0	0	2	23	1	61	6	129	114	0	0	0	0	0	11	15	3.907	3.920	4.090	5.150
34	2	0	0	0	0	2	23	1	61	6	129	114	0	0	0	0	0	11	15	3.687	2.835	2.435	2.602
35	3	0	0	0	0	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
36	4	0	0	0	0	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.178	0.098	0.125	0.151
37	1	0	0	0	0	2	23	1	67	6	54	115	0	0	0	0	0	11	15	2.538	2.661	2.856	3.664
38	2	0	0	0	0	2	23	1	67	6	54	115	0	0	0	0	0	11	15	3.323	2.614	2.270	2.447
39	3	0	0	0	0	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.686	0.745	0.786	0.814
40	4	0	0	0	0	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.178	0.096	0.111	0.130
41	1	0	0	0	0	2	23	1	67	0	54	112	0	0	0	0	0	11	15	2.538	2.661	2.856	3.664
42	2	0	0	0	0	2	23	1	67	0	54	112	0	0	0	0	0	11	15	3.323	2.614	2.270	2.447
43	3	0	0	0	0	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.687	0.747	0.787	0.815
44	4	0	0	0	0	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.172	0.094	0.110	0.129

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	1	0	0	0	0	2	23	1	67	6	126	108	0	0	0	0	0	11	15	2,538	2,661	2,856	3,664
46	2	0	0	0	0	2	23	1	67	6	126	108	0	0	0	0	0	11	15	3,323	2,614	2,270	2,447
47	3	0	0	0	0	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0,686	0,745	0,786	0,814
48	4	0	0	0	0	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0,169	0,093	0,110	0,130
49	1	0	0	0	0	3	23	1	61	6	50	122	0	0	0	0	0	11	15	3,907	3,920	4,090	5,150
50	2	0	0	0	0	3	23	1	61	6	50	122	0	0	0	0	0	11	15	3,760	2,902	2,430	2,579
51	3	0	0	0	0	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0,686	0,745	0,786	0,814
52	4	0	0	0	0	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0,225	0,146	0,121	0,127
53	1	0	0	0	0	3	23	1	61	0	50	118	0	0	0	0	0	11	15	3,907	3,920	4,090	5,150
54	2	0	0	0	0	3	23	1	61	0	50	118	0	0	0	0	0	11	15	3,760	2,902	2,430	2,579
55	3	0	0	0	0	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0,687	0,747	0,787	0,815
56	4	0	0	0	0	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0,216	0,142	0,118	0,125
57	1	0	0	0	0	3	23	1	61	6	129	114	0	0	0	0	0	11	15	3,907	3,920	4,090	5,150
58	2	0	0	0	0	3	23	1	61	6	129	114	0	0	0	0	0	11	15	3,760	2,902	2,430	2,579
59	3	0	0	0	0	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0,686	0,745	0,786	0,814
60	4	0	0	0	0	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0,212	0,141	0,118	0,125
61	1	0	0	0	0	3	23	1	67	6	54	115	0	0	0	0	0	11	15	2,538	2,661	2,856	3,664
62	2	0	0	0	0	3	23	1	67	6	54	115	0	0	0	0	0	11	15	3,379	2,667	2,266	2,430
63	3	0	0	0	0	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0,686	0,745	0,786	0,814
64	4	0	0	0	0	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0,204	0,130	0,106	0,109
65	1	0	0	0	0	3	23	1	67	0	[illegible]	112	0	0	0	0	0	11	15	2,538	2,661	2,856	3,664
66	2	0	0	0	0	3	23	1	67	0	[illegible]	112	0	0	0	0	0	11	15	3,379	2,667	2,266	2,430
67	3	0	0	0	0	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0,687	0,747	0,787	0,815
68	4	0	0	0	0	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0,198	0,127	0,104	0,109
69	1	0	0	0	0	3	23	1	67	6	126	108	0	0	0	0	0	11	15	2,538	2,661	2,856	3,664
70	2	0	0	0	0	3	23	1	67	6	126	108	0	0	0	0	0	11	15	3,379	2,667	2,266	2,430
71	3	0	0	0	0	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0,686	0,745	0,786	0,814
72	4	0	0	0	0	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0,195	0,127	0,105	0,110
73	1	0	0	0	0	1	10	1	61	6	50	122	0	0	0	0	0	11	15	2,430	2,720	3,004	3,994
74	2	0	0	0	0	1	10	1	61	6	50	122	0	0	0	0	0	11	15	5,140	4,038	3,453	3,664
75	3	0	0	0	0	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0,545	0,625	0,677	0,721
76	4	0	0	0	0	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0,287	0,202	0,163	0,165
77	1	0	0	0	0	1	10	1	61	0	50	118	0	0	0	0	0	11	15	2,430	2,720	3,004	3,994
78	2	0	0	0	0	1	10	1	61	0	50	118	0	0	0	0	0	11	15	5,140	4,038	3,453	3,664
79	3	0	0	0	0	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0,547	0,626	0,679	0,722
80	4	0	0	0	0	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0,275	0,196	0,160	0,162
81	1	0	0	0	0	1	10	1	61	6	129	114	0	0	0	0	0	11	15	2,430	2,720	3,004	3,994
82	2	0	0	0	0	1	10	1	61	6	129	114	0	0	0	0	0	11	15	5,140	4,038	3,453	3,664
83	3	0	0	0	0	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0,545	0,625	0,677	0,721
84	4	0	0	0	0	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0,270	0,194	0,160	0,163
85	1	0	0	0	0	1	10	1	67	6	54	115	0	0	0	0	0	11	15	1,397	1,681	1,937	2,661
86	2	0	0	0	0	1	10	1	67	6	54	115	0	0	0	0	0	11	15	4,425	3,580	3,120	3,362
87	3	0	0	0	0	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0,545	0,625	0,677	0,721
88	4	0	0	0	0	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0,257	0,177	0,142	0,143

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	1	0	0	0	0	1	10	1	67	0	54	112	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
90	2	0	0	0	0	1	10	1	67	0	54	112	0	0	0	0	0	11	15	4.425	3.580	3.120	3.362
91	3	0	0	0	0	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.547	0.626	0.679	0.722
92	4	0	0	0	0	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.250	0.174	0.141	0.142
93	1	0	0	0	0	1	10	1	67	6	126	108	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
94	2	0	0	0	0	1	10	1	67	6	126	108	0	0	0	0	0	11	15	4.425	3.580	3.120	3.362
95	3	0	0	0	0	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
96	4	0	0	0	0	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.247	0.174	0.141	0.144
97	1	0	0	0	0	2	10	1	61	6	50	122	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
98	2	0	0	0	0	2	10	1	61	6	50	122	0	0	0	0	0	11	15	5.040	3.948	3.470	3.710
99	3	0	0	0	0	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
100	4	0	0	0	0	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.229	0.132	0.180	0.222
101	1	0	0	0	0	2	10	1	61	0	50	118	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
102	2	0	0	0	0	2	10	1	61	0	50	118	0	0	0	0	0	11	15	5.040	3.948	3.470	3.710
103	3	0	0	0	0	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.547	0.626	0.679	0.722
104	4	0	0	0	0	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.217	0.127	0.176	0.219
105	1	0	0	0	0	2	10	1	61	6	129	114	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
106	2	0	0	0	0	2	10	1	61	6	129	114	0	0	0	0	0	11	15	5.040	3.948	3.470	3.710
107	3	0	0	0	0	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
108	4	0	0	0	0	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.212	0.125	0.176	0.220
109	1	0	0	0	0	2	10	1	67	6	54	115	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
110	2	0	0	0	0	2	10	1	67	6	54	115	0	0	0	0	0	11	15	4.347	3.511	3.133	3.398
111	3	0	0	0	0	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
112	4	0	0	0	0	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.212	0.123	0.156	0.189
113	1	0	0	0	0	2	10	1	67	0	54	112	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
114	2	0	0	0	0	2	10	1	67	0	54	112	0	0	0	0	0	11	15	4.347	3.511	3.133	3.398
115	3	0	0	0	0	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.547	0.626	0.679	0.722
116	4	0	0	0	0	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.205	0.121	0.154	0.187
117	1	0	0	0	0	2	10	1	67	6	126	108	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
118	2	0	0	0	0	2	10	1	67	6	126	108	0	0	0	0	0	11	15	4.347	3.511	3.133	3.398
119	3	0	0	0	0	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
120	4	0	0	0	0	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.202	0.120	0.155	0.189
121	1	0	0	0	0	3	10	1	61	6	50	122	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
122	2	0	0	0	0	3	10	1	61	6	50	122	0	0	0	0	0	11	15	5.123	4.028	3.460	3.680
123	3	0	0	0	0	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
124	4	0	0	0	0	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.276	0.194	0.170	0.184
125	1	0	0	0	0	3	10	1	61	0	50	118	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
126	2	0	0	0	0	3	10	1	61	0	50	118	0	0	0	0	0	11	15	5.123	4.028	3.460	3.680
127	3	0	0	0	0	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.547	0.626	0.679	0.722
128	4	0	0	0	0	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.265	0.189	0.166	0.181
129	1	0	0	0	0	3	10	1	61	6	129	114	0	0	0	0	0	11	15	2.430	2.720	3.004	3.994
130	2	0	0	0	0	3	10	1	61	6	129	114	0	0	0	0	0	11	15	5.123	4.028	3.460	3.680
131	3	0	0	0	0	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
132	4	0	0	0	0	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.260	0.187	0.166	0.182

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTD	OPDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	%LLU	%XIEW	%CVR	%CVP	LAT	MNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	1	0	0	0	0	3	10	1	67	6	54	115	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
134	2	0	0	0	0	3	10	1	67	6	54	115	0	0	0	0	0	11	15	4.411	3.573	3.125	3.374
135	3	0	0	0	0	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
136	4	0	0	0	0	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.249	0.172	0.148	0.158
137	1	0	0	0	0	3	10	1	67	0	54	112	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
138	2	0	0	0	0	3	10	1	67	0	54	112	0	0	0	0	0	11	15	4.411	3.573	3.125	3.374
139	3	0	0	0	0	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.547	0.626	0.679	0.722
140	4	0	0	0	0	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.242	0.169	0.146	0.157
141	1	0	0	0	0	3	10	1	67	6	126	108	0	0	0	0	0	11	15	1.397	1.681	1.937	2.661
142	2	0	0	0	0	3	10	1	67	6	126	108	0	0	0	0	0	11	15	4.411	3.573	3.125	3.374
143	3	0	0	0	0	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.545	0.625	0.677	0.721
144	4	0	0	0	0	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.239	0.168	0.147	0.158
145	1	0	0	0	0	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
146	2	0	0	0	0	1	4	1	61	6	50	122	0	0	0	0	0	11	15	6.431	5.373	4.863	5.383
147	3	0	0	0	0	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
148	4	0	0	0	0	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.370	0.287	0.251	0.268
149	1	0	0	0	0	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
150	2	0	0	0	0	1	4	1	61	0	50	118	0	0	0	0	0	11	15	6.431	5.373	4.865	5.383
151	3	0	0	0	0	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
152	4	0	0	0	0	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.354	0.278	0.244	0.263
153	1	0	0	0	0	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
154	2	0	0	0	0	1	4	1	61	6	129	114	0	0	0	0	0	11	15	6.431	5.373	4.863	5.383
155	3	0	0	0	0	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
156	4	0	0	0	0	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.347	0.276	0.244	0.263
157	1	0	0	0	0	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
158	2	0	0	0	0	1	4	1	67	6	54	115	0	0	0	0	0	11	15	5.202	4.486	4.139	4.669
159	3	0	0	0	0	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
160	4	0	0	0	0	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.330	0.251	0.217	0.232
161	1	0	0	0	0	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
162	2	0	0	0	0	1	4	1	67	0	54	112	0	0	0	0	0	11	15	5.202	4.486	4.139	4.669
163	3	0	0	0	0	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
164	4	0	0	0	0	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.321	0.246	0.215	0.230
165	1	0	0	0	0	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
166	2	0	0	0	0	1	4	1	67	6	126	108	0	0	0	0	0	11	15	5.202	4.486	4.139	4.669
167	3	0	0	0	0	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
168	4	0	0	0	0	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.316	0.246	0.215	0.231
169	1	0	0	0	0	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
170	2	0	0	0	0	2	4	1	61	6	50	122	0	0	0	0	0	11	15	6.311	5.258	4.886	5.461
171	3	0	0	0	0	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
172	4	0	0	0	0	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.289	0.184	0.278	0.362
173	1	0	0	0	0	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
174	2	0	0	0	0	2	4	1	61	0	50	118	0	0	0	0	0	11	15	6.311	5.258	4.886	5.461
175	3	0	0	0	0	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
176	4	0	0	0	0	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.273	0.176	0.272	0.357

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *****   04:14:29   04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	1	0	0	0	0	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
178	2	0	0	0	0	2	4	1	61	6	129	114	0	0	0	0	0	11	15	6.311	5.258	4.886	5.461
179	3	0	0	0	0	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
180	4	0	0	0	0	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.266	0.173	0.272	0.358
181	1	0	0	0	0	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
182	2	0	0	0	0	2	4	1	67	6	54	115	0	0	0	0	0	11	15	5.110	4.398	4.157	4.730
183	3	0	0	0	0	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
184	4	0	0	0	0	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.268	0.172	0.239	0.306
185	1	0	0	0	0	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
186	2	0	0	0	0	2	4	1	67	0	54	112	0	0	0	0	0	11	15	5.110	4.398	4.157	4.730
187	3	0	0	0	0	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
188	4	0	0	0	0	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.259	0.168	0.236	0.304
189	1	0	0	0	0	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
190	2	0	0	0	0	2	4	1	67	6	126	108	0	0	0	0	0	11	15	5.110	4.398	4.157	4.730
191	3	0	0	0	0	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
192	4	0	0	0	0	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.254	0.167	0.237	0.305
193	1	0	0	0	0	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
194	2	0	0	0	0	3	4	1	61	6	50	122	0	0	0	0	0	11	15	6.410	5.360	4.873	5.407
195	3	0	0	0	0	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
196	4	0	0	0	0	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.355	0.276	0.261	0.299
197	1	0	0	0	0	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
198	2	0	0	0	0	3	4	1	61	0	50	118	0	0	0	0	0	11	15	6.410	5.360	4.873	5.407
199	3	0	0	0	0	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
200	4	0	0	0	0	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.339	0.267	0.255	0.294
201	1	0	0	0	0	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.925	1.229	1.462	2.136
202	2	0	0	0	0	3	4	1	61	6	129	114	0	0	0	0	0	11	15	6.410	5.360	4.873	5.407
203	3	0	0	0	0	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
204	4	0	0	0	0	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.332	0.265	0.254	0.295
205	1	0	0	0	0	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
206	2	0	0	0	0	3	4	1	67	6	54	115	0	0	0	0	0	11	15	5.186	4.477	4.147	4.688
207	3	0	0	0	0	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
208	4	0	0	0	0	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.319	0.243	0.226	0.256
209	1	0	0	0	0	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
210	2	0	0	0	0	3	4	1	67	0	54	112	0	0	0	0	0	11	15	5.186	4.477	4.147	4.688
211	3	0	0	0	0	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.343	0.427	0.480	0.536
212	4	0	0	0	0	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.310	0.238	0.223	0.254
213	1	0	0	0	0	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.415	0.619	0.783	1.213
214	2	0	0	0	0	3	4	1	67	6	126	108	0	0	0	0	0	11	15	5.186	4.477	4.147	4.688
215	3	0	0	0	0	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.341	0.425	0.478	0.534
216	4	0	0	0	0	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.305	0.237	0.223	0.256
217	1	0	0	0	0	1	23	1	38	6	28	146	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
218	2	0	0	0	0	1	23	1	38	6	28	146	0	0	0	0	0	4	15	4.363	3.245	2.638	2.746
219	3	0	0	0	0	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
220	4	0	0	0	0	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.353	0.234	0.180	0.174

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O T L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	H O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	1	0	0	0	0	1	23	1	38	0	28	141	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
222	2	0	0	0	0	1	23	1	38	0	28	141	0	0	0	0	0	4	15	4.363	3.245	2.638	2.746
223	3	0	0	0	0	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.687	0.747	0.787	0.815
224	4	0	0	0	0	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.322	0.217	0.169	0.165
225	1	0	0	0	0	1	23	1	38	6	151	136	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
226	2	0	0	0	0	1	23	1	38	6	151	136	0	0	0	0	0	4	15	4.363	3.245	2.638	2.746
227	3	0	0	0	0	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
228	4	0	0	0	0	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.299	0.204	0.161	0.159
229	1	0	0	0	0	1	23	1	42	6	37	142	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
230	2	0	0	0	0	1	23	1	42	6	37	142	0	0	0	0	0	4	15	4.283	3.198	2.606	2.718
231	3	0	0	0	0	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
232	4	0	0	0	0	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.322	0.214	0.165	0.161
233	1	0	0	0	0	1	23	1	42	0	37	137	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
234	2	0	0	0	0	1	23	1	42	0	37	137	0	0	0	0	0	4	15	4.283	3.198	2.606	2.718
235	3	0	0	0	0	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.687	0.747	0.787	0.815
236	4	0	0	0	0	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.298	0.200	0.156	0.154
237	1	0	0	0	0	1	23	1	42	6	142	132	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
238	2	0	0	0	0	1	23	1	42	6	142	132	0	0	0	0	0	4	15	4.283	3.190	2.606	2.718
239	3	0	0	0	0	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
240	4	0	0	0	0	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.282	0.192	0.151	0.150
241	1	0	0	0	0	2	23	1	38	6	28	146	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
242	2	0	0	0	0	2	23	1	38	6	28	146	0	0	0	0	0	4	15	4.215	3.122	2.658	2.803
243	3	0	0	0	0	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
244	4	0	0	0	0	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.286	0.157	0.198	0.235
245	1	0	0	0	0	2	23	1	38	0	28	141	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
246	2	0	0	0	0	2	23	1	38	0	28	141	0	0	0	0	0	4	15	4.215	3.122	2.658	2.803
247	3	0	0	0	0	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.687	0.747	0.787	0.815
248	4	0	0	0	0	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.255	0.139	0.186	0.226
249	1	0	0	0	0	2	23	1	38	6	151	136	0	0	0	0	0	4	15	8.349	7.841	7.844	9.600
250	2	0	0	0	0	2	23	1	38	6	151	136	0	0	0	0	0	4	15	4.215	3.122	2.658	2.803
251	3	0	0	0	0	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
252	4	0	0	0	0	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.232	0.127	0.178	0.221
253	1	0	0	0	0	2	23	1	42	6	37	142	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
254	2	0	0	0	0	2	23	1	42	6	37	142	0	0	0	0	0	4	15	4.145	3.082	2.625	2.771
255	3	0	0	0	0	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
256	4	0	0	0	0	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.259	0.141	0.182	0.219
257	1	0	0	0	0	2	23	1	42	0	37	137	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
258	2	0	0	0	0	2	23	1	42	0	37	137	0	0	0	0	0	4	15	4.145	3.082	2.625	2.771
259	3	0	0	0	0	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.687	0.747	0.787	0.815
260	4	0	0	0	0	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.235	0.128	0.173	0.212
261	1	0	0	0	0	2	23	1	42	6	142	132	0	0	0	0	0	4	15	7.625	7.208	7.241	8.888
262	2	0	0	0	0	2	23	1	42	6	142	132	0	0	0	0	0	4	15	4.145	3.082	2.625	2.771
263	3	0	0	0	0	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.686	0.745	0.786	0.814
264	4	0	0	0	0	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.219	0.119	0.168	0.208

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI OD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	1	0	0	0	0	3	23	1	38	6	28	146	0	0	0	0	0	4	15	8,349	7,841	7,844	9,600
266	2	0	0	0	0	3	23	1	38	6	28	146	0	0	0	0	0	4	15	4,337	3,232	2,647	2,765
267	3	0	0	0	0	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0,686	0,745	0,786	0,814
268	4	0	0	0	0	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0,341	0,226	0,187	0,194
269	1	0	0	0	0	3	23	1	38	0	28	141	0	0	0	0	0	4	15	8,349	7,841	7,844	9,600
270	2	0	0	0	0	3	23	1	38	0	28	141	0	0	0	0	0	4	15	4,337	3,232	2,647	2,765
271	3	0	0	0	0	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0,687	0,747	0,787	0,815
272	4	0	0	0	0	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0,310	0,208	0,176	0,185
273	1	0	0	0	0	3	23	1	38	6	151	136	0	0	0	0	0	4	15	8,349	7,841	7,844	9,600
274	2	0	0	0	0	3	23	1	38	6	151	136	0	0	0	0	0	4	15	4,337	3,232	2,647	2,765
275	3	0	0	0	0	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0,686	0,745	0,786	0,814
276	4	0	0	0	0	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0,287	0,196	0,168	0,179
277	1	0	0	0	0	3	23	1	42	6	37	142	0	0	0	0	0	4	15	7,625	7,208	7,241	8,888
278	2	0	0	0	0	3	23	1	42	6	37	142	0	0	0	0	0	4	15	4,259	3,185	2,615	2,735
279	3	0	0	0	0	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0,686	0,745	0,786	0,814
280	4	0	0	0	0	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0,311	0,206	0,172	0,180
281	1	0	0	0	0	3	23	1	42	0	37	137	0	0	0	0	0	4	15	7,625	7,208	7,241	8,888
282	2	0	0	0	0	3	23	1	42	0	37	137	0	0	0	0	0	4	15	4,259	3,185	2,615	2,735
283	3	0	0	0	0	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0,687	0,747	0,787	0,815
284	4	0	0	0	0	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0,287	0,193	0,163	0,173
285	1	0	0	0	0	3	23	1	42	6	142	132	0	0	0	0	0	4	15	7,625	7,208	7,241	8,888
286	2	0	0	0	0	3	23	1	42	6	142	132	0	0	0	0	0	4	15	4,259	3,185	2,615	2,735
287	3	0	0	0	0	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0,686	0,745	0,786	0,814
288	4	0	0	0	0	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0,271	0,184	0,158	0,169
289	1	0	0	0	0	1	10	1	38	6	28	146	0	0	0	0	0	4	15	6,233	6,262	6,489	8,216
290	2	0	0	0	0	1	10	1	38	6	28	146	0	0	0	0	0	4	15	6,367	4,762	3,949	4,088
291	3	0	0	0	0	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0,545	0,625	0,677	0,721
292	4	0	0	0	0	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0,459	0,322	0,259	0,255
293	1	0	0	0	0	1	10	1	38	0	28	141	0	0	0	0	0	4	15	6,233	6,262	6,489	8,216
294	2	0	0	0	0	1	10	1	38	0	28	141	0	0	0	0	0	4	15	6,367	4,762	3,949	4,088
295	3	0	0	0	0	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0,547	0,626	0,679	0,722
296	4	0	0	0	0	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0,411	0,296	0,241	0,241
297	1	0	0	0	0	1	10	1	38	6	151	136	0	0	0	0	0	4	15	6,233	6,262	6,489	8,216
298	2	0	0	0	0	1	10	1	38	6	151	136	0	0	0	0	0	4	15	6,367	4,762	3,949	4,088
299	3	0	0	0	0	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0,545	0,625	0,677	0,721
300	4	0	0	0	0	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0,377	0,277	0,228	0,232
301	1	0	0	0	0	1	10	1	42	6	37	142	0	0	0	0	0	4	15	5,589	5,676	5,919	7,532
302	2	0	0	0	0	1	10	1	42	6	37	142	0	0	0	0	0	4	15	6,206	4,666	3,882	4,029
303	3	0	0	0	0	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0,545	0,625	0,677	0,721
304	4	0	0	0	0	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0,412	0,292	0,236	0,235
305	1	0	0	0	0	1	10	1	42	0	37	137	0	0	0	0	0	4	15	5,589	5,676	5,919	7,532
306	2	0	0	0	0	1	10	1	42	0	37	137	0	0	0	0	0	4	15	6,206	4,666	3,882	4,029
307	3	0	0	0	0	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0,547	0,626	0,679	0,722
308	4	0	0	0	0	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0,376	0,272	0,222	0,224

***** OUTPUT CALCULATIONS FROM FRIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOTL	DENS	BRFF	U PITD	O PIOD	SZ UENN	V IZEEWN	A RZEILM	S CAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	1	0	0	0	0	1	10	1	42	6	142	132	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
310	2	0	0	0	0	1	10	1	42	6	142	132	0	0	0	0	0	4	15	6.206	4.666	3.882	4.029
311	3	0	0	0	0	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
312	4	0	0	0	0	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.353	0.259	0.214	0.218
313	1	0	0	0	0	2	10	1	38	6	28	146	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
314	2	0	0	0	0	2	10	1	38	6	28	146	0	0	0	0	0	4	15	6.200	4.616	3.975	4.162
315	3	0	0	0	0	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
316	4	0	0	0	0	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.363	0.209	0.286	0.347
317	1	0	0	0	0	2	10	1	38	0	28	141	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
318	2	0	0	0	0	2	10	1	38	0	28	141	0	0	0	0	0	4	15	6.200	4.616	3.975	4.162
319	3	0	0	0	0	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.547	0.626	0.679	0.722
320	4	0	0	0	0	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.315	0.183	0.268	0.333
321	1	0	0	0	0	2	10	1	38	6	151	136	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
322	2	0	0	0	0	2	10	1	38	6	151	136	0	0	0	0	0	4	15	6.200	4.616	3.975	4.162
323	3	0	0	0	0	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
324	4	0	0	0	0	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.280	0.164	0.255	0.324
325	1	0	0	0	0	2	10	1	42	6	37	142	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
326	2	0	0	0	0	2	10	1	42	6	37	142	0	0	0	0	0	4	15	6.051	4.529	3.907	4.099
327	3	0	0	0	0	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
328	4	0	0	0	0	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.322	0.186	0.261	0.322
329	1	0	0	0	0	2	10	1	42	0	37	137	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
330	2	0	0	0	0	2	10	1	42	0	37	137	0	0	0	0	0	4	15	6.051	4.529	3.907	4.099
331	3	0	0	0	0	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.547	0.626	0.679	0.722
332	4	0	0	0	0	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.286	0.166	0.248	0.311
333	1	0	0	0	0	2	10	1	42	6	142	132	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
334	2	0	0	0	0	2	10	1	42	6	142	132	0	0	0	0	0	4	15	6.051	4.529	3.907	4.099
335	3	0	0	0	0	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
336	4	0	0	0	0	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.262	0.154	0.240	0.305
337	1	0	0	0	0	3	10	1	38	6	28	146	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
338	2	0	0	0	0	3	10	1	38	6	28	146	0	0	0	0	0	4	15	6.338	4.746	3.960	4.113
339	3	0	0	0	0	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
340	4	0	0	0	0	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.442	0.310	0.270	0.285
341	1	0	0	0	0	3	10	1	38	0	28	141	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
342	2	0	0	0	0	3	10	1	38	0	28	141	0	0	0	0	0	4	15	6.338	4.746	3.960	4.113
343	3	0	0	0	0	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.547	0.626	0.679	0.722
344	4	0	0	0	0	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.394	0.284	0.251	0.271
345	1	0	0	0	0	3	10	1	38	6	151	136	0	0	0	0	0	4	15	6.233	6.262	6.489	8.216
346	2	0	0	0	0	3	10	1	38	6	151	136	0	0	0	0	0	4	15	6.338	4.746	3.960	4.113
347	3	0	0	0	0	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
348	4	0	0	0	0	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.360	0.265	0.239	0.262
349	1	0	0	0	0	3	10	1	42	6	37	142	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
350	2	0	0	0	0	3	10	1	42	6	37	142	0	0	0	0	0	4	15	6.179	4.651	3.892	4.052
351	3	0	0	0	0	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
352	4	0	0	0	0	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.396	0.281	0.246	0.264

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	DPIDD	SZUENN	VIZEEWN	ARZEILH	SCAANTG	%LLU	%XIEW	%CVR	%CVP	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	1	0	0	0	0	3	10	1	42	0	37	137	0	0	0	0	0	4	15	5.589	5.676	5.919	7.[illegible]
354	2	0	0	0	0	3	10	1	42	0	37	137	0	0	0	0	0	4	15	6.179	4.651	3.892	4.[illegible]
355	3	0	0	0	0	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.547	0.626	0.679	0.722
356	4	0	0	0	0	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.360	0.261	0.232	0.253
357	1	0	0	0	0	3	10	1	42	6	142	132	0	0	0	0	0	4	15	5.589	5.676	5.919	7.532
358	2	0	0	0	0	3	10	1	42	6	142	132	0	0	0	0	0	4	15	6.179	4.651	3.892	4.052
359	3	0	0	0	0	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.545	0.625	0.677	0.721
360	4	0	0	0	0	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.337	0.248	0.224	0.247
361	1	0	0	0	0	1	4	1	38	6	28	146	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
362	2	0	0	0	0	1	4	1	38	6	28	146	0	0	0	0	0	4	15	8.947	7.044	6.159	6.594
363	3	0	0	0	0	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
364	4	0	0	0	0	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.631	0.479	0.411	0.425
365	1	0	0	0	0	1	4	1	38	0	28	141	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
366	2	0	0	0	0	1	4	1	38	0	28	141	0	0	0	0	0	4	15	8.947	7.044	6.159	6.594
367	3	0	0	0	0	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
368	4	0	0	0	0	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.553	0.433	0.378	0.399
369	1	0	0	0	0	1	4	1	38	6	151	136	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
370	2	0	0	0	0	1	4	1	38	6	151	136	0	0	0	0	0	4	15	8.947	7.044	6.159	6.594
371	3	0	0	0	0	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
372	4	0	0	0	0	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.497	0.401	0.355	0.381
373	1	0	0	0	0	1	4	1	42	6	37	142	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
374	2	0	0	0	0	1	4	1	42	6	37	142	0	0	0	0	0	4	15	8.610	6.824	5.989	6.435
375	3	0	0	0	0	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
376	4	0	0	0	0	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.556	0.429	0.372	0.389
377	1	0	0	0	0	1	4	1	42	0	37	137	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
378	2	0	0	0	0	1	4	1	42	0	37	137	0	0	0	0	0	4	15	8.610	6.824	5.989	6.435
379	3	0	0	0	0	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
380	4	0	0	0	0	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.499	0.395	0.347	0.369
381	1	0	0	0	0	1	4	1	42	6	142	132	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
382	2	0	0	0	0	1	4	1	42	6	142	132	0	0	0	0	0	4	15	8.610	6.824	5.989	6.435
383	3	0	0	0	0	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
384	4	0	0	0	0	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.462	0.374	0.332	0.357
385	1	0	0	0	0	2	4	1	38	6	28	146	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
386	2	0	0	0	0	2	4	1	38	6	28	146	0	0	0	0	0	4	15	8.746	6.853	6.198	6.720
387	3	0	0	0	0	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
388	4	0	0	0	0	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.495	0.310	0.456	0.579
389	1	0	0	0	0	2	4	1	38	0	28	141	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
390	2	0	0	0	0	2	4	1	38	0	28	141	0	0	0	0	0	4	15	8.746	6.853	6.198	6.720
391	3	0	0	0	0	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
392	4	0	0	0	0	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.417	0.265	0.423	0.552
393	1	0	0	0	0	2	4	1	38	6	151	136	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
394	2	0	0	0	0	2	4	1	38	6	151	136	0	0	0	0	0	4	15	8.746	6.853	6.198	6.720
395	3	0	0	0	0	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
396	4	0	0	0	0	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.361	0.232	0.400	0.534

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	R O PI TD	D PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	1	0	0	0	0	2	4	1	42	6	37	142	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
398	2	0	0	0	0	2	4	1	42	6	37	142	0	0	0	0	0	4	15	8.422	6.645	6.025	6.554
399	3	0	0	0	0	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
400	4	0	0	0	0	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.429	0.271	0.414	0.533
401	1	0	0	0	0	2	4	1	42	0	37	137	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
402	2	0	0	0	0	2	4	1	42	0	37	137	0	0	0	0	0	4	15	8.422	6.645	6.025	6.554
403	3	0	0	0	0	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
404	4	0	0	0	0	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.372	0.237	0.389	0.512
405	1	0	0	0	0	2	4	1	42	6	142	132	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
406	2	0	0	0	0	2	4	1	42	6	142	132	0	0	0	0	0	4	15	8.422	6.645	6.025	6.554
407	3	0	0	0	0	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
408	4	0	0	0	0	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.335	0.216	0.374	0.501
409	1	0	0	0	0	3	4	1	38	6	28	146	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
410	2	0	0	0	0	3	4	1	38	6	28	146	0	0	0	0	0	4	15	8.912	7.023	6.175	6.634
411	3	0	0	0	0	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
412	4	0	0	0	0	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.607	0.461	0.428	0.476
413	1	0	0	0	0	3	4	1	38	0	28	141	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
414	2	0	0	0	0	3	4	1	38	0	28	141	0	0	0	0	0	4	15	8.912	7.023	6.175	6.634
415	3	0	0	0	0	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
416	4	0	0	0	0	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.528	0.416	0.395	0.450
417	1	0	0	0	0	3	4	1	38	6	151	136	0	0	0	0	0	4	15	3.435	3.842	4.167	5.594
418	2	0	0	0	0	3	4	1	38	6	151	136	0	0	0	0	0	4	15	8.912	7.023	6.175	6.634
419	3	0	0	0	0	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
420	4	0	0	0	0	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.473	0.383	0.372	0.432
421	1	0	0	0	0	3	4	1	42	6	37	142	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
422	2	0	0	0	0	3	4	1	42	6	37	142	0	0	0	0	0	4	15	8.577	6.804	6.004	6.473
423	3	0	0	0	0	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
424	4	0	0	0	0	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.533	0.412	0.388	0.437
425	1	0	0	0	0	3	4	1	42	0	37	137	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
426	2	0	0	0	0	3	4	1	42	0	37	137	0	0	0	0	0	4	15	8.577	6.804	6.004	6.473
427	3	0	0	0	0	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.343	0.427	0.480	0.536
428	4	0	0	0	0	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.476	0.378	0.363	0.417
429	1	0	0	0	0	3	4	1	42	6	142	132	0	0	0	0	0	4	15	2.968	3.378	3.697	5.007
430	2	0	0	0	0	3	4	1	42	6	142	132	0	0	0	0	0	4	15	8.577	6.804	6.004	6.473
431	3	0	0	0	0	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.341	0.425	0.478	0.534
432	4	0	0	0	0	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.439	0.357	0.348	0.405
433	1	0	0	0	0	1	23	1	31	6	18	154	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
434	2	0	0	0	0	1	23	1	31	6	18	154	0	0	0	0	0	5	15	4.408	3.263	2.643	2.743
435	3	0	0	0	0	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
436	4	0	0	0	0	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.416	0.271	0.205	0.193
437	1	0	0	0	0	1	23	1	31	0	18	148	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
438	2	0	0	0	0	1	23	1	31	0	18	148	0	0	0	0	0	5	15	4.408	3.263	2.643	2.743
439	3	0	0	0	0	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
440	4	0	0	0	0	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.367	0.245	0.189	0.183

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BKREF	OPITD	OPIDD	SZUFNN	VIZEEWN	ARZEILM	SCAANTG	IXLLU	VXIEW	TXCVR	GXCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	1	0	0	0	0	1	23	1	31	6	161	143	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
442	2	0	0	0	0	1	23	1	31	6	161	143	0	0	0	0	0	5	15	4.408	3.263	2.643	2.743
443	3	0	0	0	0	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
444	4	0	0	0	0	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.335	0.228	0.178	0.175
445	1	0	0	0	0	1	23	1	34	6	31	150	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
446	2	0	0	0	0	1	23	1	34	6	31	150	0	0	0	0	0	5	15	4.365	3.237	2.626	2.728
447	3	0	0	0	0	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
448	4	0	0	0	0	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.381	0.251	0.192	0.183
449	1	0	0	0	0	1	23	1	34	0	31	145	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
450	2	0	0	0	0	1	23	1	34	0	31	145	0	0	0	0	0	5	15	4.365	3.237	2.626	2.728
451	3	0	0	0	0	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
452	4	0	0	0	0	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.345	0.231	0.179	0.174
453	1	0	0	0	0	1	23	1	34	6	148	140	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
454	2	0	0	0	0	1	23	1	34	6	148	140	0	0	0	0	0	5	15	4.365	3.237	2.626	2.728
455	3	0	0	0	0	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
456	4	0	0	0	0	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.318	0.217	0.170	0.168
457	1	0	0	0	0	2	23	1	31	6	18	154	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
458	2	0	0	0	0	2	23	1	31	6	18	154	0	0	0	0	0	5	15	4.248	3.130	2.665	2.805
459	3	0	0	0	0	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
460	4	0	0	0	0	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.343	0.187	0.225	0.260
461	1	0	0	0	0	2	23	1	31	0	18	148	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
462	2	0	0	0	0	2	23	1	31	0	18	148	0	0	0	0	0	5	15	4.248	3.130	2.665	2.805
463	3	0	0	0	0	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
464	4	0	0	0	0	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.294	0.162	0.208	0.249
465	1	0	0	0	0	2	23	1	31	6	161	143	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
466	2	0	0	0	0	2	23	1	31	6	161	143	0	0	0	0	0	5	15	4.248	3.130	2.665	2.805
467	3	0	0	0	0	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
468	4	0	0	0	0	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.262	0.144	0.198	0.241
469	1	0	0	0	0	2	23	1	34	6	31	150	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
470	2	0	0	0	0	2	23	1	34	6	31	150	0	0	0	0	0	5	15	4.211	3.109	2.647	2.788
471	3	0	0	0	0	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
472	4	0	0	0	0	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.310	0.170	0.211	0.248
473	1	0	0	0	0	2	23	1	34	0	31	145	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
474	2	0	0	0	0	2	23	1	34	0	31	145	0	0	0	0	0	5	15	4.211	3.109	2.647	2.788
475	3	0	0	0	0	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
476	4	0	0	0	0	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.275	0.151	0.198	0.238
477	1	0	0	0	0	2	23	1	34	6	148	140	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
478	2	0	0	0	0	2	23	1	34	6	148	140	0	0	0	0	0	5	15	4.211	3.109	2.647	2.788
479	3	0	0	0	0	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
480	4	0	0	0	0	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.247	0.136	0.188	0.232
481	1	0	0	0	0	3	23	1	31	6	18	154	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
482	2	0	0	0	0	3	23	1	31	6	18	154	0	0	0	0	0	5	15	4.380	3.248	2.653	2.764
483	3	0	0	0	0	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
484	4	0	0	0	0	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.403	0.262	0.213	0.215

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZELWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	1	0	0	0	0	3	23	1	31	0	18	148	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
486	2	0	0	0	0	3	23	1	31	0	18	148	0	0	0	0	0	5	15	4.380	3.248	2.653	2.764
487	3	0	0	0	0	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
488	4	0	0	0	0	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.354	0.236	0.197	0.204
489	1	0	0	0	0	3	23	1	31	6	161	143	0	0	0	0	0	5	15	9.368	8.719	8.672	10.572
490	2	0	0	0	0	3	23	1	31	6	161	143	0	0	0	0	0	5	15	4.380	3.248	2.653	2.764
491	3	0	0	0	0	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
492	4	0	0	0	0	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.322	0.219	0.186	0.197
493	1	0	0	0	0	3	23	1	34	6	31	150	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
494	2	0	0	0	0	3	23	1	34	6	31	150	0	0	0	0	0	5	15	4.338	3.223	2.635	2.748
495	3	0	0	0	0	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
496	4	0	0	0	0	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.368	0.242	0.200	0.204
497	1	0	0	0	0	3	23	1	34	0	31	145	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
498	2	0	0	0	0	3	23	1	34	0	31	145	0	0	0	0	0	5	15	4.338	3.223	2.635	2.748
499	3	0	0	0	0	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.687	0.747	0.787	0.815
500	4	0	0	0	0	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.333	0.223	0.187	0.195
501	1	0	0	0	0	3	23	1	34	6	148	140	0	0	0	0	0	5	15	8.915	8.325	8.298	10.131
502	2	0	0	0	0	3	23	1	34	6	148	140	0	0	0	0	0	5	15	4.338	3.223	2.635	2.748
503	3	0	0	0	0	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.686	0.745	0.786	0.814
504	4	0	0	0	0	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.305	0.208	0.177	0.189
505	1	0	0	0	0	1	10	1	31	6	18	154	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
506	2	0	0	0	0	1	10	1	31	6	18	154	0	0	0	0	0	5	15	6.496	4.825	3.983	4.198
507	3	0	0	0	0	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
508	4	0	0	0	0	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.562	0.381	0.299	0.286
509	1	0	0	0	0	1	10	1	31	0	18	148	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
510	2	0	0	0	0	1	10	1	31	0	18	148	0	0	0	0	0	5	15	6.496	4.825	3.983	4.108
511	3	0	0	0	0	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
512	4	0	0	0	0	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.480	0.339	0.273	0.268
513	1	0	0	0	0	1	10	1	31	6	161	143	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
514	2	0	0	0	0	1	10	1	31	6	161	143	0	0	0	0	0	5	15	6.496	4.825	3.983	4.108
515	3	0	0	0	0	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
516	4	0	0	0	0	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.431	0.312	0.255	0.256
517	1	0	0	0	0	1	10	1	34	6	31	150	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
518	2	0	0	0	0	1	10	1	34	6	31	150	0	0	0	0	0	5	15	6.410	4.773	3.947	4.076
519	3	0	0	0	0	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
520	4	0	0	0	0	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.503	0.348	0.278	0.269
521	1	0	0	0	0	1	10	1	34	0	31	145	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
522	2	0	0	0	0	1	10	1	34	0	31	145	0	0	0	0	0	5	15	6.410	4.773	3.947	4.076
523	3	0	0	0	0	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
524	4	0	0	0	0	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.447	0.318	0.258	0.255
525	1	0	0	0	0	1	10	1	34	6	148	140	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
526	2	0	0	0	0	1	10	1	34	6	148	140	0	0	0	0	0	5	15	6.410	4.773	3.947	4.076
527	3	0	0	0	0	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
528	4	0	0	0	0	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.405	0.295	0.242	0.245

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOTL	DENS	BEF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
529	1	0	0	0	0	2	10	1	31	6	18	154	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
530	2	0	0	0	0	2	10	1	31	6	18	154	0	0	0	0	0	5	15	6.315	4.667	4.011	4.189
531	3	0	0	0	0	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
532	4	0	0	0	0	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.457	0.259	0.328	0.386
533	1	0	0	0	0	2	10	1	31	0	18	148	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
534	2	0	0	0	0	2	10	1	31	0	18	148	0	0	0	0	0	5	15	6.315	4.667	4.011	4.189
535	3	0	0	0	0	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
536	4	0	0	0	0	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.375	0.217	0.302	0.368
537	1	0	0	0	0	2	10	1	31	6	161	143	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
538	2	0	0	0	0	2	10	1	31	6	161	143	0	0	0	0	0	5	15	6.315	4.667	4.011	4.189
539	3	0	0	0	0	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
540	4	0	0	0	0	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.326	0.190	0.285	0.356
541	1	0	0	0	0	2	10	1	34	6	31	150	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
542	2	0	0	0	0	2	10	1	34	6	31	150	0	0	0	0	0	5	15	6.236	4.621	3.975	4.155
543	3	0	0	0	0	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
544	4	0	0	0	0	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.402	0.231	0.306	0.366
545	1	0	0	0	0	2	10	1	34	0	31	145	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
546	2	0	0	0	0	2	10	1	34	0	31	145	0	0	0	0	0	5	15	6.236	4.621	3.975	4.155
547	3	0	0	0	0	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
548	4	0	0	0	0	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.346	0.201	0.286	0.352
549	1	0	0	0	0	2	10	1	34	6	148	140	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
550	2	0	0	0	0	2	10	1	34	6	148	140	0	0	0	0	0	5	15	6.236	4.621	3.975	4.155
551	3	0	0	0	0	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
552	4	0	0	0	0	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.303	0.177	0.270	0.341
553	1	0	0	0	0	3	10	1	31	6	18	154	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
554	2	0	0	0	0	3	10	1	31	6	18	154	0	0	0	0	0	5	15	6.464	4.807	3.995	4.135
555	3	0	0	0	0	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
556	4	0	0	0	0	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.543	0.368	0.311	0.319
557	1	0	0	0	0	3	10	1	31	0	18	148	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
558	2	0	0	0	0	3	10	1	31	0	18	148	0	0	0	0	0	5	15	6.464	4.807	3.995	4.135
559	3	0	0	0	0	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
560	4	0	0	0	0	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.461	0.326	0.284	0.301
561	1	0	0	0	0	3	10	1	31	6	161	143	0	0	0	0	0	5	15	7.171	7.098	7.292	9.170
562	2	0	0	0	0	3	10	1	31	6	161	143	0	0	0	0	0	5	15	6.464	4.807	3.995	4.135
563	3	0	0	0	0	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
564	4	0	0	0	0	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.412	0.300	0.267	0.289
565	1	0	0	0	0	3	10	1	34	6	31	150	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
566	2	0	0	0	0	3	10	1	34	6	31	150	0	0	0	0	0	5	15	6.379	4.756	3.958	4.102
567	3	0	0	0	0	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
568	4	0	0	0	0	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.485	0.336	0.289	0.301
569	1	0	0	0	0	3	10	1	34	0	31	145	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
570	2	0	0	0	0	3	10	1	34	0	31	145	0	0	0	0	0	5	15	6.379	4.756	3.958	4.102
571	3	0	0	0	0	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.547	0.626	0.679	0.722
572	4	0	0	0	0	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.429	0.306	0.269	0.287

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	D PI TO	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
573	1	0	0	0	0	3	10	1	34	6	148	140	0	0	0	0	0	5	15	6.760	6.729	6.935	8.743
574	2	0	0	0	0	1	10	1	34	6	148	140	0	0	0	0	0	5	15	6.379	4.756	3.958	4.102
575	3	0	0	0	0	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.545	0.625	0.677	0.721
576	4	0	0	0	0			1	34	6	148	140	0	0	0	0	0	5	15	0.387	0.283	0.254	0.276
577	1	0	0	0	0			1	31	6	18	154	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
578	2	0	0	0	0		[illegible]	1	31	6	18	154	0	0	0	0	0	5	15	9.295	7.251	6.306	6.718
579	3	0	0	0	0	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
580	4	0	0	0	0	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.806	0.582	0.486	0.485
581	1	0	0	0	0	1	4	1	31	0	18	148	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
582	2	0	0	0	0	1	4	1	31	0	18	148	0	0	0	0	0	5	15	9.295	7.251	6.306	6.718
583	3	0	0	0	0	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
584	4	0	0	0	0	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.663	0.505	0.434	0.448
585	1	0	0	0	0	1	4	1	31	6	161	143	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
586	2	0	0	0	0	1	4	1	31	6	161	143	0	0	0	0	0	5	15	9.295	7.251	6.306	6.718
587	3	0	0	0	0	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
588	4	0	0	0	0	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.582	0.459	0.402	0.424
589	1	0	0	0	0	1	4	1	34	6	31	150	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
590	2	0	0	0	0	1	4	1	34	6	31	150	0	0	0	0	0	5	15	9.110	7.131	6.214	6.633
591	3	0	0	0	0	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
592	4	0	0	0	0	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.703	0.523	0.445	0.453
593	1	0	0	0	0	1	4	1	34	0	31	145	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
594	2	0	0	0	0	1	4	1	34	0	31	145	0	0	0	0	0	5	15	9.110	7.131	6.214	6.633
595	3	0	0	0	0	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
596	4	0	0	0	0	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.611	0.471	0.408	0.425
597	1	0	0	0	0	1	4	1	34	6	148	140	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
598	2	0	0	0	0	1	4	1	34	6	148	140	0	0	0	0	0	5	15	9.110	7.131	6.214	6.633
599	3	0	0	0	0	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
600	4	0	0	0	0	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.540	0.430	0.379	0.403
601	1	0	0	0	0	2	4	1	31	6	18	154	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
602	2	0	0	0	0	2	4	1	31	6	18	154	0	0	0	0	0	5	15	9.077	7.044	6.348	6.854
603	3	0	0	0	0	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
604	4	0	0	0	0	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.657	0.399	0.535	0.652
605	1	0	0	0	0	2	4	1	31	0	18	148	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
606	2	0	0	0	0	2	4	1	31	0	18	148	0	0	0	0	0	5	15	9.077	7.044	6.348	6.854
607	3	0	0	0	0	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
608	4	0	0	0	0	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.515	0.323	0.483	0.614
609	1	0	0	0	0	2	4	1	31	6	161	143	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
610	2	0	0	0	0	2	4	1	31	6	161	143	0	0	0	0	0	5	15	9.077	7.044	6.348	6.854
611	3	0	0	0	0	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
612	4	0	0	0	0	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.434	0.276	0.451	0.590
613	1	0	0	0	0	2	4	1	34	6	31	150	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
614	2	0	0	0	0	2	4	1	34	6	31	150	0	0	0	0	0	5	15	8.899	6.932	6.255	6.764
615	3	0	0	0	0	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
616	4	0	0	0	0	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.560	0.347	0.492	0.613

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** V0114129 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RO PI TD	n PI DD	SZ UF NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
617	1	0	0	0	0	2	4	1	34	0	31	145	0	0	0	0	0	5	15	3.846	4.238	4.560	6.0[illegible]3
618	2	0	0	0	0	2	4	1	34	0	31	145	0	0	0	0	0	5	15	8.899	6.932	6.255	6.764
619	3	0	0	0	0	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
620	4	0	0	0	0	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.469	0.296	0.455	0.585
621	1	0	0	0	0	2	4	1	34	6	148	140	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
622	2	0	0	0	0	2	4	1	34	6	148	140	0	0	0	0	0	5	15	8.899	6.932	6.255	6.764
623	3	0	0	0	0	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
624	4	0	0	0	0	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.397	0.254	0.426	0.563
625	1	0	0	0	0	3	4	1	31	6	18	154	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
626	2	0	0	0	0	3	4	1	31	6	18	154	0	0	0	0	0	5	15	9.257	7.228	6.323	6.761
627	3	0	0	0	0	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
628	4	0	0	0	0	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.779	0.563	0.505	0.540
629	1	0	0	0	0	3	4	1	31	0	18	148	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
630	2	0	0	0	0	3	4	1	31	0	18	148	0	0	0	0	0	5	15	9.257	7.228	6.323	6.761
631	3	0	0	0	0	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
632	4	0	0	0	0	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.636	0.487	0.453	0.503
633	1	0	0	0	0	3	4	1	31	6	161	143	0	0	0	0	0	5	15	4.158	4.541	4.863	6.453
634	2	0	0	0	0	3	4	1	31	6	161	143	0	0	0	0	0	5	15	9.257	7.228	6.323	6.761
635	3	0	0	0	0	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
636	4	0	0	0	0	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.555	0.440	0.420	0.479
637	1	0	0	0	0	3	4	1	34	6	31	150	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
638	2	0	0	0	0	3	4	1	34	6	31	150	0	0	0	0	0	5	15	9.073	7.109	6.231	6.674
639	3	0	0	0	0	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
640	4	0	0	0	0	3	4	1	34	6	31	15[illegible]	0	0	0	0	0	5	15	0.678	0.505	0.463	0.506
641	1	0	0	0	0	3	4	1	34	0	31	145	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
642	2	0	0	0	0	3	4	1	34	0	31	145	0	0	0	0	0	5	15	9.073	7.109	6.231	6.674
643	3	0	0	0	0	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.343	0.427	0.480	0.536
644	4	0	0	0	0	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.586	0.453	0.426	0.478
645	1	0	0	0	0	3	4	1	34	6	148	140	0	0	0	0	0	5	15	3.846	4.238	4.560	6.078
646	2	0	0	0	0	3	4	1	34	6	148	140	0	0	0	0	0	5	15	9.073	7.109	6.231	6.674
647	3	0	0	0	0	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.341	0.425	0.478	0.534
648	4	0	0	0	0	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.514	0.412	0.397	0.456
649	1	0	0	0	0	1	23	1	29	6	13	156	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
650	2	0	0	0	0	1	23	1	29	6	13	156	0	0	0	0	0	5	30	4.404	3.257	2.636	2.735
651	3	0	0	0	0	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
652	4	0	0	0	0	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.430	0.278	0.210	0.197
653	1	0	0	0	0	1	23	1	29	0	13	150	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
654	2	0	0	0	0	1	23	1	29	0	13	150	0	0	0	0	0	5	30	4.404	3.257	2.636	2.735
655	3	0	0	0	0	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
656	4	0	0	0	0	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.379	0.252	0.194	0.186
657	1	0	0	0	0	1	23	1	29	6	166	144	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
658	2	0	0	0	0	1	23	1	29	6	166	144	0	0	0	0	0	5	30	4.404	3.257	2.636	2.735
659	3	0	0	0	0	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
660	4	0	0	0	0	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.344	0.233	0.182	0.1[illegible]8

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITO	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
661	1	0	0	0	0	1	23	1	31	6	27	153	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
662	2	0	0	0	0	1	23	1	31	6	27	153	0	0	0	0	0	5	30	4.372	3.238	2.623	2.724
663	3	0	0	0	0	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
664	4	0	0	0	0	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.403	0.263	0.200	0.189
665	1	0	0	0	0	1	23	1	31	0	27	148	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
666	2	0	0	0	0	1	23	1	31	0	27	148	0	0	0	0	0	5	30	4.372	3.238	2.623	2.724
667	3	0	0	0	0	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
668	4	0	0	0	0	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.359	0.240	0.186	0.180
669	1	0	0	0	0	1	23	1	31	6	152	142	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
670	2	0	0	0	0	1	23	1	31	6	152	142	0	0	0	0	0	5	30	4.372	3.238	2.623	2.724
671	3	0	0	0	0	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
672	4	0	0	0	0	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.330	0.224	0.176	0.172
673	1	0	0	0	0	2	23	1	29	6	13	156	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
674	2	0	0	0	0	2	23	1	29	6	13	156	0	0	0	0	0	5	30	4.242	3.122	2.658	2.798
675	3	0	0	0	0	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
676	4	0	0	0	0	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.356	0.194	0.230	0.264
677	1	0	0	0	0	2	23	1	29	0	13	150	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
678	2	0	0	0	0	2	23	1	29	0	13	150	0	0	0	0	0	5	30	4.242	3.122	2.658	2.798
679	3	0	0	0	0	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
680	4	0	0	0	0	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.305	0.168	0.214	0.253
681	1	0	0	0	0	2	23	1	29	6	166	144	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
682	2	0	0	0	0	2	23	1	29	6	166	144	0	0	0	0	0	5	30	4.242	3.122	2.658	2.798
683	3	0	0	0	0	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
684	4	0	0	0	0	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.270	0.148	0.202	0.245
685	1	0	0	0	0	2	23	1	31	6	27	153	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
686	2	0	0	0	0	2	23	1	31	6	27	153	0	0	0	0	0	5	30	4.214	3.106	2.645	2.785
687	3	0	0	0	0	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
688	4	0	0	0	0	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.331	0.180	0.219	0.255
689	1	0	0	0	0	2	23	1	31	0	27	148	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
690	2	0	0	0	0	2	23	1	31	0	27	148	0	0	0	0	0	5	30	4.214	3.106	2.645	2.785
691	3	0	0	0	0	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
692	4	0	0	0	0	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.287	0.158	0.205	0.245
693	1	0	0	0	0	2	23	1	31	6	152	142	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
694	2	0	0	0	0	2	23	1	31	6	152	142	0	0	0	0	0	5	30	4.214	3.106	2.645	2.785
695	3	0	0	0	0	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
696	4	0	0	0	0	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.258	0.142	0.195	0.238
697	1	0	0	0	0	3	23	1	29	6	13	156	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
698	2	0	0	0	0	3	23	1	29	6	13	156	0	0	0	0	0	5	30	4.375	3.242	2.646	2.756
699	3	0	0	0	0	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
700	4	0	0	0	0	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.417	0.269	0.218	0.219
701	1	0	0	0	0	3	23	1	29	0	13	150	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
702	2	0	0	0	0	3	23	1	29	0	13	150	0	0	0	0	0	5	30	4.375	3.242	2.646	2.756
703	3	0	0	0	0	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
704	4	0	0	0	0	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.366	0.243	0.202	0.208

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	IU	BASE	SPEC	SOIL	DENS	BREF	ROPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
705	1	0	0	0	0	3	23	1	29	6	166	144	0	0	0	0	0	5	30	9.553	8.876	8.819	10.743
706	2	0	0	0	0	3	23	1	29	6	166	144	0	0	0	0	0	5	30	4.375	3.242	2.646	2.756
707	3	0	0	0	0	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
708	4	0	0	0	0	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.330	0.224	0.190	0.200
709	1	0	0	0	0	3	23	1	31	6	27	153	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
710	2	0	0	0	0	3	23	1	31	6	27	153	0	0	0	0	0	5	30	4.344	3.223	2.633	2.744
711	3	0	0	0	0	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
712	4	0	0	0	0	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.390	0.254	0.208	0.210
713	1	0	0	0	0	3	23	1	31	0	27	148	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
714	2	0	0	0	0	3	23	1	31	0	27	148	0	0	0	0	0	5	30	4.344	3.223	2.633	2.744
715	3	0	0	0	0	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.687	0.747	0.787	0.815
716	4	0	0	0	0	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.346	0.231	0.193	0.201
717	1	0	0	0	0	3	23	1	31	6	152	142	0	0	0	0	0	5	30	9.200	8.570	8.528	10.401
718	2	0	0	0	0	3	23	1	31	6	152	142	0	0	0	0	0	5	30	4.344	3.223	2.633	2.744
719	3	0	0	0	0	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.686	0.745	0.786	0.814
720	4	0	0	0	0	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.317	0.216	0.183	0.194
721	1	0	0	0	0	1	10	1	29	6	13	156	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
722	2	0	0	0	0	1	10	1	29	6	13	156	0	0	0	0	0	5	30	6.502	4.823	3.978	4.100
723	3	0	0	0	0	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
724	4	0	0	0	0	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.585	0.393	0.307	0.291
725	1	0	0	0	0	1	10	1	29	0	13	150	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
726	2	0	0	0	0	1	10	1	29	0	13	150	0	0	0	0	0	5	30	6.502	4.823	3.978	4.100
727	3	0	0	0	0	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
728	4	0	0	0	0	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.500	0.350	0.281	0.274
729	1	0	0	0	0	1	10	1	29	6	166	144	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
730	2	0	0	0	0	1	10	1	29	6	166	144	0	0	0	0	0	5	30	6.502	4.823	3.978	4.100
731	3	0	0	0	0	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
732	4	0	0	0	0	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.444	0.320	0.261	0.261
733	1	0	0	0	0	1	10	1	31	6	27	153	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
734	2	0	0	0	0	1	10	1	31	6	27	153	0	0	0	0	0	5	30	6.437	4.784	3.951	4.076
735	3	0	0	0	0	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
736	4	0	0	0	0	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.540	0.369	0.291	0.279
737	1	0	0	0	0	1	10	1	31	0	27	148	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
738	2	0	0	0	0	1	10	1	31	0	27	148	0	0	0	0	0	5	30	6.437	4.784	3.951	4.076
739	3	0	0	0	0	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
740	4	0	0	[illegible]	0	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.469	0.332	0.267	0.263
741	1	0	0	0	0	1	10	1	31	6	152	142	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
742	2	0	0	0	0	1	10	1	31	6	152	142	0	0	0	0	0	5	30	6.437	4.784	3.951	4.076
743	3	0	0	0	0	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
744	4	0	0	0	0	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.424	0.307	0.251	0.252
745	1	0	0	0	0	2	10	1	29	6	13	156	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
746	2	0	0	0	0	2	10	1	29	6	13	156	0	0	0	0	0	5	30	6.319	4.663	4.007	4.182
747	3	0	0	0	0	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
748	4	0	0	0	0	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.479	0.269	0.337	0.393

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
749	1	0	0	0	0	2	10	1	29	0	13	150	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
750	2	0	0	0	0	2	10	1	29	0	13	150	0	0	0	0	0	5	30	6.319	4.663	4.007	4.182
751	3	0	0	0	0	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
752	4	0	0	0	0	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.394	0.227	0.310	0.375
753	1	0	0	0	0	2	10	1	29	6	166	144	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
754	2	0	0	0	0	2	10	1	29	6	166	144	0	0	0	0	0	5	30	6.319	4.663	4.007	4.182
755	3	0	0	0	0	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
756	4	0	0	0	0	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.337	0.197	0.291	0.362
757	1	0	0	0	0	2	10	1	31	6	27	153	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
758	2	0	0	0	0	2	10	1	31	6	27	153	0	0	0	0	0	5	30	6.259	4.628	3.979	4.156
759	3	0	0	0	0	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
760	4	0	0	0	0	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.437	0.248	0.320	0.378
761	1	0	0	0	0	2	10	1	31	0	27	148	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
762	2	0	0	0	0	2	10	1	31	0	27	148	0	0	0	0	0	5	30	6.259	4.628	3.979	4.156
763	3	0	0	0	0	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
764	4	0	0	0	0	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.366	0.212	0.296	0.362
765	1	0	0	0	0	2	10	1	31	6	152	142	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
766	2	0	0	0	0	2	10	1	31	6	152	142	0	0	0	0	0	5	30	6.259	4.628	3.979	4.156
767	3	0	0	0	0	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
768	4	0	0	0	0	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.320	0.187	0.280	0.351
769	1	0	0	0	0	3	10	1	29	6	13	156	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
770	2	0	0	0	0	3	10	1	29	6	13	156	0	0	0	0	0	5	30	6.470	4.805	3.990	4.127
771	3	0	0	0	0	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
772	4	0	0	0	0	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.566	0.380	0.319	0.325
773	1	0	0	0	0	3	10	1	29	0	13	150	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
774	2	0	0	0	0	3	10	1	29	0	13	150	0	0	0	0	^	5	30	6.470	4.805	3.990	4.127
775	3	0	0	0	0	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
776	4	0	0	0	0	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.481	0.337	0.292	0.307
777	1	0	0	0	0	3	10	1	29	6	166	144	0	0	0	0	0	5	30	7.346	7.251	7.437	9.341
778	2	0	0	0	0	3	10	1	29	6	166	144	0	0	0	0	0	5	30	6.470	4.805	3.990	4.127
779	3	0	0	0	0	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
780	4	0	0	0	0	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.425	0.308	0.273	0.294
781	1	0	0	0	0	3	10	1	31	6	27	153	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
782	2	0	0	0	0	3	10	1	31	6	27	153	0	0	0	0	0	5	30	6.406	4.767	3.963	4.103
783	3	0	0	0	0	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
784	4	0	0	0	0	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.522	0.356	0.302	0.312
785	1	0	0	0	0	3	10	1	31	0	27	148	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
786	2	0	0	0	0	3	10	1	31	0	27	148	0	0	0	0	0	5	30	6.406	4.767	3.963	4.103
787	3	0	0	0	0	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.547	0.626	0.679	0.722
788	4	0	0	0	0	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.451	0.319	0.279	0.296
789	1	0	0	0	0	3	10	1	31	6	152	142	0	0	0	0	0	5	30	7.026	6.964	7.160	9.010
790	2	0	0	0	0	3	10	1	31	6	152	142	0	0	0	0	0	5	30	6.406	4.767	3.963	4.103
791	3	0	0	0	0	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.545	0.625	0.677	0.721
792	4	0	0	0	0	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.405	0.295	0.263	0.265

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TO	O PI OD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
793	1	0	0	0	0	1	4	1	29	6	13	156	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
794	2	0	0	0	0	1	4	1	29	6	13	156	0	0	0	0	0	5	30	9.336	7.270	6.316	6.722
795	3	0	0	0	0	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
796	4	0	0	0	0	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.847	0.604	0.502	0.496
797	1	0	0	0	0	1	4	1	29	0	13	150	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
798	2	0	0	0	0	1	4	1	29	0	13	150	0	0	0	0	0	5	30	9.336	7.270	6.316	6.722
799	3	0	0	0	0	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
800	4	0	0	0	0	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.697	0.525	0.449	0.459
801	1	0	0	0	0	1	4	1	29	6	166	144	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
802	2	0	0	0	0	1	4	1	29	6	166	144	0	0	0	0	0	5	30	9.336	7.270	6.316	6.722
803	3	0	0	0	0	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
804	4	0	0	0	0	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.602	0.472	0.412	0.433
805	1	0	0	0	0	1	4	1	31	6	27	153	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
806	2	0	0	0	0	1	4	1	31	6	27	153	0	0	0	0	0	5	30	9.196	7.179	6.247	6.658
807	3	0	0	0	0	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
808	4	0	0	0	0	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.769	0.560	0.470	0.472
809	1	0	0	0	0	1	4	1	31	0	27	148	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
810	2	0	0	0	0	1	4	1	31	0	27	148	0	0	0	0	0	5	30	9.196	7.179	6.247	6.658
811	3	0	0	0	0	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
812	4	0	0	0	0	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.646	0.494	0.425	0.440
813	1	0	0	0	0	1	4	1	31	6	152	142	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
814	2	0	0	0	0	1	4	1	31	6	152	142	0	0	0	0	0	5	30	9.196	7.179	6.247	6.658
815	3	0	0	0	0	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
816	4	0	0	0	0	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.571	0.451	0.395	0.417
817	1	0	0	0	0	2	4	1	29	6	13	156	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
818	2	0	0	0	0	2	4	1	29	6	13	156	0	0	0	0	0	5	30	9.114	7.060	6.358	6.860
819	3	0	0	0	0	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
820	4	0	0	0	0	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.697	0.419	0.551	0.666
821	1	0	0	0	0	2	4	1	29	0	13	150	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
822	2	0	0	0	0	2	4	1	29	0	13	150	0	0	0	0	0	5	30	9.114	7.060	6.358	6.860
823	3	0	0	0	0	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
824	4	0	0	0	0	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.547	0.341	0.498	0.627
825	1	0	0	0	0	2	4	1	29	6	166	144	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
826	2	0	0	0	0	2	4	1	29	6	166	144	0	0	0	0	0	5	30	9.114	7.060	6.358	6.860
827	3	0	0	0	0	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
828	4	0	0	0	0	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.452	0.287	0.462	0.601
829	1	0	0	0	0	2	4	1	31	6	27	153	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
830	2	0	0	0	0	2	4	1	31	6	27	153	0	0	0	0	0	5	30	8.981	6.976	6.288	6.792
831	3	0	0	0	0	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
832	4	0	0	0	0	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.623	0.380	0.518	0.637
833	1	0	0	0	0	2	4	1	31	0	27	148	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
834	2	0	0	0	0	2	4	1	31	0	27	148	0	0	0	0	0	5	30	8.981	6.976	6.288	6.792
835	3	0	0	0	0	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
836	4	0	0	0	0	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.501	0.315	0.473	0.603

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	U PI TD	O PI OD	SZ UF NN	V TZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
837	1	0	0	0	0	2	4	1	31	6	152	142	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
838	2	0	0	0	0	2	4	1	31	6	152	142	0	0	0	0	0	5	30	8.981	6.976	6.288	6.792
839	3	0	0	0	0	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
840	4	0	0	0	0	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.425	0.271	0.443	0.580
841	1	0	0	0	0	3	4	1	29	6	13	156	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
842	2	0	0	0	0	3	4	1	29	6	13	156	0	0	0	0	0	5	30	9.297	7.247	6.334	6.765
843	3	0	0	0	0	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
844	4	0	0	0	0	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.820	0.585	0.520	0.553
845	1	0	0	0	0	3	4	1	29	0	13	150	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
846	2	0	0	0	0	3	4	1	29	0	13	150	0	0	0	0	0	5	30	9.297	7.247	6.334	6.765
847	3	0	0	0	0	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
848	4	0	0	0	0	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.670	0.506	0.468	0.515
849	1	0	0	0	0	3	4	1	29	6	166	144	0	0	0	0	0	5	30	4.300	4.676	4.995	6.614
850	2	0	0	0	0	3	4	1	29	6	166	144	0	0	0	0	0	5	30	9.297	7.247	6.334	6.765
851	3	0	0	0	0	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
852	4	0	0	0	0	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.575	0.453	0.431	0.489
853	1	0	0	0	0	3	4	1	31	6	27	153	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
854	2	0	0	0	0	3	4	1	31	6	27	153	0	0	0	0	0	5	30	9.158	7.157	6.264	6.700
855	3	0	0	0	0	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
856	4	0	0	0	0	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.742	0.542	0.489	0.527
857	1	0	0	0	0	3	4	1	31	0	27	148	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
858	2	0	0	0	0	3	4	1	31	0	27	148	0	0	0	0	0	5	30	9.158	7.157	6.264	6.700
859	3	0	0	0	0	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.343	0.427	0.480	0.536
860	4	0	0	0	0	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.620	0.475	0.444	0.494
861	1	0	0	0	0	3	4	1	31	6	152	142	0	0	0	0	0	5	30	4.055	4.439	4.759	6.321
862	2	0	0	0	0	3	4	1	31	6	152	142	0	0	0	0	0	5	30	9.158	7.157	6.264	6.700
863	3	0	0	0	0	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.341	0.425	0.478	0.534
864	4	0	0	0	0	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.544	0.432	0.413	0.471
865	1	0	0	0	0	1	23	1	28	6	11	156	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
866	2	0	0	0	0	1	23	1	28	6	11	156	0	0	0	0	0	6	9	4.396	3.251	2.631	2.729
867	3	0	0	0	0	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
868	4	0	0	0	0	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.433	0.280	0.211	0.197
869	1	0	0	0	0	1	23	1	28	0	11	151	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
870	2	0	0	0	0	1	23	1	28	0	11	151	0	0	0	0	0	6	9	4.396	3.251	2.631	2.729
871	3	0	0	0	0	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
872	4	0	0	0	0	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.382	0.254	0.195	0.187
873	1	0	0	0	0	1	23	1	28	6	168	145	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
874	2	0	0	0	0	1	23	1	28	6	168	145	0	0	0	0	0	6	9	4.396	3.251	2.631	2.729
875	3	0	0	0	0	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
876	4	0	0	0	0	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.345	0.234	0.183	0.179
877	1	0	0	0	0	1	23	1	31	6	25	154	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
878	2	0	0	0	0	1	23	1	31	6	25	154	0	0	0	0	0	6	9	4.369	3.234	2.620	2.719
879	3	0	0	0	0	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
880	4	0	0	0	0	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.409	0.266	0.202	0.191

***** OUTPUT CALCULATIC IS FROM FRIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

CASE	ID	CANOPY PARAMETERS BASE	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS BREF	OPITD	OPIDD	VIEW GEOMETRY SZUENN	VIZEEWN	ARZEILM	SCAANTG	CANOPY CHARACTERISTICS %LLU	%VIEW	T %CVR	G %CVR	TIME AND PLACE LAT	MONTH	DAY	INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS) 500 TO 600	600 TO 700	700 TO 80	800 TO 1100
881	1	0	0	0	0	1	23	1	31	0	25	148	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
882	2	0	0	0	0	1	23	1	31	0	25	148	0	0	0	0	0	6	9	4.369	3.234	2.620	2.719
883	3	0	0	0	0	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
884	4	0	0	0	0	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.363	0.242	0.187	0.181
885	1	0	0	0	0	1	23	1	31	6	154	143	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
886	2	0	0	0	0	1	23	1	31	6	154	143	0	0	0	0	0	6	9	4.369	3.234	2.620	2.719
887	3	0	0	0	0	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
888	4	0	0	0	0	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.333	0.226	0.177	0.174
889	1	0	0	0	0	2	23	1	28	6	11	156	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
890	2	0	0	0	0	2	23	1	28	6	11	156	0	0	0	0	0	6	9	4.234	3.115	2.653	[illegible].792
891	3	0	0	0	0	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.686	0.745	0.786	.814
892	4	0	0	0	0	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.359	0.195	0.231	0.265
893	1	0	0	0	0	2	23	1	28	0	11	151	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
894	2	0	0	0	0	2	23	1	28	0	11	151	0	0	0	0	0	6	9	4.234	3.115	2.653	2.79[illegible]
895	3	0	0	0	0	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
896	4	0	0	0	0	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.308	0.169	0.215	0.254
897	1	0	0	0	0	2	23	1	28	6	168	145	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
898	2	0	0	0	0	2	23	1	28	6	168	145	0	0	0	0	0	6	9	4.234	3.115	2.653	2.772
899	3	0	0	0	0	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
900	4	0	0	0	0	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.271	0.149	0.202	0.246
901	1	0	0	0	0	2	23	1	31	6	25	154	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
902	2	0	0	0	0	2	23	1	31	6	25	154	0	0	0	0	0	6	9	4.210	3.102	2.641	2.781
903	3	0	0	0	0	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
904	4	0	0	0	0	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.337	0.184	0.221	0.257
905	1	0	0	0	0	2	23	1	31	0	25	148	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
906	2	0	0	0	0	2	23	1	31	0	25	148	0	0	0	0	0	6	9	4.210	3.102	2.641	2.781
907	3	0	0	0	0	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
908	4	0	0	0	0	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.291	0.160	0.206	0.246
909	1	0	0	0	0	2	23	1	31	6	154	143	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
910	2	0	0	0	0	2	23	1	31	6	154	143	0	0	0	0	0	6	9	4.210	3.102	2.641	2.781
911	3	0	0	0	0	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
912	4	0	0	0	0	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.261	0.144	0.196	0.239
913	1	0	0	0	0	3	23	1	28	6	11	156	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
914	2	0	0	0	0	3	23	1	28	6	11	156	0	0	0	0	0	6	9	4.367	3.235	2.641	2.749
915	3	0	0	0	0	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
916	4	0	0	0	0	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.420	0.271	0.219	0.219
917	1	0	0	0	0	3	23	1	28	0	11	151	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
918	2	0	0	0	0	3	23	1	28	0	11	151	0	0	0	0	0	6	9	4.367	3.235	2.641	2.749
919	3	0	0	0	0	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
920	4	0	0	0	0	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.369	0.245	0.203	0.209
921	1	0	0	0	0	3	23	1	28	6	168	145	0	0	0	0	0	6	9	9.581	8.899	8.839	10.766
922	2	0	0	0	0	3	23	1	28	6	168	145	0	0	0	0	0	6	9	4.367	3.235	2.641	2.749
923	3	0	0	0	0	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
924	4	0	0	0	0	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.332	0.225	0.191	0.201

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	Π PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	M U N TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
925	1	0	0	0	0	3	23	1	31	6	25	154	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
926	2	0	0	0	0	3	23	1	31	6	25	154	0	0	0	0	0	6	9	4.341	3.219	2.630	2.739
927	3	0	0	0	0	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
928	4	0	0	0	0	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.396	0.258	0.210	0.212
929	1	0	0	0	0	3	23	1	31	0	25	148	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
930	2	0	0	0	0	3	23	1	31	0	25	148	0	0	0	0	0	6	9	4.341	3.219	2.630	2.739
931	3	0	0	0	0	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.687	0.747	0.787	0.815
932	4	0	0	0	0	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.350	0.234	0.195	0.202
933	1	0	0	0	0	3	23	1	31	6	154	143	0	0	0	0	0	6	9	9.276	8.634	8.588	10.470
934	2	0	0	0	0	3	23	1	31	6	154	143	0	0	0	0	0	6	9	4.341	3.219	2.630	2.739
935	3	0	0	0	0	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.686	0.745	0.786	0.814
936	4	0	0	0	0	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.321	0.218	0.185	0.195
937	1	0	0	0	0	1	10	1	28	6	11	156	0	0	0	0	0	6	9	7.376	7.276	7.460	9.367
938	2	0	0	0	0	1	10	1	28	6	11	156	0	0	0	0	0	6	9	6.493	4.815	3.971	4.091
939	3	0	0	0	0	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.545	0.625	0.677	0.721
940	4	0	0	0	0	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.590	0.395	0.309	0.292
941	1	0	0	0	0	1	10	1	28	0	11	151	0	0	0	0	0	6	9	7.376	7.276	7.460	9.367
942	2	0	0	0	0	1	10	1	28	0	11	151	0	0	0	0	0	6	9	6.493	4.815	3.971	4.091
943	3	0	0	0	0	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.547	0.626	0.679	0.722
944	4	0	0	0	0	1	10	1	28	0	11	151	0	0	0	0	0	6	7	0.505	0.353	0.282	0.275
945	1	0	0	0	0	1	10	1	28	6	168	145	0	0	0	0	0	6	9	7.376	7.276	7.460	9.367
946	2	0	0	0	0	1	10	1	28	6	168	145	0	0	0	0	0	6	9	6.493	4.815	3.971	4.091
947	3	0	0	0	0	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.545	0.625	0.677	0.721
948	4	0	0	0	0	1	10	1	28	6	168	145	0	0	0	C	0	6	9	0.446	0.322	0.262	0.262
949	1	0	0	0	0	1	10	1	31	6	25	154	0	0	0	0	0	6	9	7.098	7.028	7.220	9.080
950	2	0	0	0	0	1	10	1	31	6	25	154	0	0	0	0	0	6	9	6.438	4.782	3.948	4.071
951	3	0	0	0	0	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.545	0.625	0.677	0.721
952	4	0	0	0	0	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.551	0.374	0.295	0.282
953	1	0	0	0	0	1	10	1	31	0	25	148	0	0	0	0	0	6	9	7.098	7.028	7.220	9.080
954	2	0	0	0	0	1	10	1	31	0	25	148	0	0	0	0	0	6	9	6.438	4.782	3.948	4.071
955	3	0	0	0	0	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.547	0.626	0.679	0.722
956	4	0	0	0	0	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.475	0.336	0.270	0.266
957	1	0	0	0	0	1	10	1	31	6	154	143	0	C	0	0	0	6	9	7.098	7.028	7.220	9.080
958	2	0	0	0	0	1	10	1	31	6	154	143	0	0	0	0	0	6	9	6.438	4.782	3.948	4.071
959	3	0	0	0	0	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.545	0.625	0.677	0.721
960	4	0	0	0	0	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.429	0.310	0.254	0.254
961	1	0	0	0	0	2	10	1	28	6	11	156	0	0	0	0	0	6	9	7.376	7.276	7.460	9.367
962	2	0	0	0	0	2	10	1	28	6	11	156	0	0	0	0	0	6	9	6.310	4.655	3.999	4.174
963	3	0	0	0	0	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.545	0.625	0.677	0.721
964	4	0	0	0	0	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.484	0.271	0.338	0.394
965	1	0	0	0	0	2	10	1	28	0	11	151	0	0	0	0	0	6	9	7.376	7.276	7.460	9.367
966	2	0	0	0	0	2	10	1	28	0	11	151	0	0	0	0	0	6	9	6.310	4.655	3.999	4.174
967	3	0	0	0	0	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.547	0.626	0.679	0.722
968	4	0	0	0	0	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.399	0.230	0.312	0.376

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI OD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
969	1	0	0	0	0	2	10	1	28	6	168	145	0	0	0	0	0	6	9	7,376	7,276	7,460	9,367
970	2	0	0	0	0	2	10	1	28	6	168	145	0	0	0	0	0	6	9	6,310	4,655	3,999	4,174
971	3	0	0	0	0	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
972	4	0	0	0	0	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0,339	0,198	0,292	0,363
973	1	0	0	0	0	2	10	1	31	6	25	154	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
974	2	0	0	0	0	2	10	1	31	6	25	154	0	0	0	0	0	6	9	6,259	4,625	3,976	4,152
975	3	0	0	0	0	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
976	4	0	0	0	0	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0,447	0,253	0,324	0,381
977	1	0	0	0	0	2	10	1	31	0	25	148	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
978	2	0	0	0	0	2	10	1	31	0	25	148	0	0	0	0	0	6	9	6,259	4,625	3,976	4,152
979	3	0	0	0	0	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0,547	0,626	0,679	0,722
980	4	0	0	0	0	2	10	1	31	0	25	148	0	0	0	)	0	6	9	0,371	0,215	0,299	0,364
981	1	0	0	0	0	2	10	1	31	6	154	143	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
982	2	0	0	0	0	2	10	1	31	6	154	143	0	0	0	0	0	6	9	6,259	4,625	3,976	4,152
983	3	0	0	0	0	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
984	4	0	0	0	0	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0,325	0,190	0,282	0,353
985	1	0	0	0	0	3	10	1	28	6	11	156	0	0	0	0	0	6	9	7,376	7,276	7,460	9,367
986	2	0	0	0	0	3	10	1	28	6	11	156	0	0	0	0	0	6	9	6,461	4,797	3,983	4,119
987	3	0	0	0	0	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
988	4	0	0	0	0	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0,571	0,382	0,320	0,326
989	1	0	0	0	0	3	10	1	28	0	11	151	0	0	0	0	0	6	9	7,376	7,276	7,460	9,367
990	2	0	0	0	0	3	10	1	28	0	11	151	0	0	0	0	0	6	9	6,461	4,797	3,983	4,119
991	3	0	0	0	0	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0,547	0,626	0,679	0,722
992	4	0	0	0	0	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0,486	0,340	0,294	0,309
993	1	0	0	0	0	3	10	1	28	6	168	145	0	0	0	0	0	6	9	7,376	7,276	7,460	9,367
994	2	0	0	0	0	3	10	1	28	6	168	145	0	0	0	0	0	6	9	6,461	4,797	3,983	4,119
995	3	0	0	0	0	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
996	4	0	0	0	0	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0,427	0,309	0,274	0,295
997	1	0	0	0	0	3	10	1	31	6	25	154	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
998	2	0	0	0	0	3	10	1	31	6	25	154	0	0	0	0	0	6	9	6,407	4,764	3,959	4,098
999	3	0	0	0	0	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
1000	4	0	0	0	0	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0,532	0,362	0,306	0,315
1001	1	0	0	0	0	3	10	1	31	0	25	148	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
1002	2	0	0	0	0	3	10	1	31	0	25	148	0	0	0	0	0	6	9	6,407	4,764	3,959	4,098
1003	3	0	0	0	0	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0,547	0,626	0,679	0,722
1004	4	0	0	0	0	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0,457	0,323	0,282	0,298
1005	1	0	0	0	0	3	10	1	31	6	154	143	0	0	0	0	0	6	9	7,098	7,028	7,220	9,080
1006	2	0	0	0	0	3	10	1	31	6	154	143	0	0	0	0	0	6	9	6,407	4,764	3,959	4,098
1007	3	0	0	0	0	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0,545	0,625	0,677	0,721
1008	4	0	0	0	0	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0,410	0,298	0,265	0,287
1009	1	0	0	0	0	1	4	1	28	6	11	156	0	0	0	0	0	6	9	4,327	4,700	5,019	6,642
1010	2	0	0	0	0	1	4	1	28	6	11	156	0	0	0	0	0	6	9	9,331	7,263	6,309	6,713
1011	3	0	0	0	0	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0,341	0,425	0,478	0,534
1012	4	0	0	0	0	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0,855	0,608	0,504	0,498

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1013	1	0	0	0	0	1	4	1	28	0	11	151	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1014	2	0	0	0	0	1	4	1	28	0	11	151	0	0	0	0	0	6	9	9.331	7.263	6.309	6.713
1015	3	0	0	0	0	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1016	4	0	0	0	0	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.707	0.530	0.452	0.462
1017	1	0	0	0	0	1	4	1	28	6	168	145	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1018	2	0	0	0	0	1	4	1	28	6	168	145	0	0	0	0	0	6	9	9.331	7.263	6.309	6.713
1019	3	0	0	0	0	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1020	4	0	0	0	0	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.606	0.475	0.414	0.434
1021	1	0	0	0	0	1	4	1	31	6	25	154	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1022	2	0	0	0	0	1	4	1	31	6	25	154	0	0	0	0	0	6	9	9.211	7.185	6.249	6.658
1023	3	0	0	0	0	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1024	4	0	0	0	0	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.788	0.571	0.478	0.478
1025	1	0	0	0	0	1	4	1	31	0	25	148	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1026	2	0	0	0	0	1	4	1	31	0	25	148	0	0	0	0	0	6	9	9.211	7.185	6.249	6.658
1027	3	0	0	0	0	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1028	4	0	0	0	0	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.656	0.500	0.430	0.444
1029	1	0	0	0	0	1	4	1	31	6	154	143	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1030	2	0	0	0	0	1	4	1	31	6	154	143	0	0	0	0	0	6	9	9.211	7.185	6.249	6.658
1031	3	0	0	0	0	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1032	4	0	0	0	0	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.579	0.456	0.399	0.421
1033	1	0	0	0	0	2	4	1	28	6	11	156	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1034	2	0	0	0	0	2	4	1	28	6	11	156	0	0	0	0	0	6	9	9.109	7.053	6.351	6.851
1035	3	0	0	0	0	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1036	4	0	0	0	0	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.705	0.423	0.554	0.668
1037	1	0	0	0	0	2	4	1	28	0	11	151	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1038	2	0	0	0	0	2	4	1	28	0	11	151	0	0	0	0	0	6	9	9.109	7.053	6.351	6.851
1039	3	0	0	0	0	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1040	4	0	0	0	0	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.557	0.346	0.502	0.630
1041	1	0	0	0	0	2	4	1	28	6	168	145	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1042	2	0	0	0	0	2	4	1	28	6	168	145	0	0	0	0	0	6	9	9.109	7.053	6.351	6.851
1043	3	0	0	0	0	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1044	4	0	0	0	0	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.456	0.289	0.463	0.603
1045	1	0	0	0	0	2	4	1	31	6	25	154	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1046	2	0	0	0	0	2	4	1	31	6	25	154	0	0	0	0	0	6	9	8.994	6.981	6.291	6.793
1047	3	0	0	0	0	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1048	4	0	0	0	0	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.641	0.390	0.526	0.643
1049	1	0	0	0	0	2	4	1	31	0	25	148	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1050	2	0	0	0	0	2	4	1	31	0	25	148	0	0	0	0	0	6	9	8.994	6.981	6.291	6.793
1051	3	0	0	0	0	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1052	4	0	0	0	0	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.510	0.320	0.478	0.608
1053	1	0	0	0	0	2	4	1	31	6	154	143	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1054	2	0	0	0	0	2	4	1	31	6	154	143	0	0	0	0	0	6	9	8.994	6.981	6.291	6.793
1055	3	0	0	0	0	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1056	4	0	0	0	0	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.432	0.275	0.447	0.585

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TO	O PI DD	SZ UF NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1057	1	0	0	0	0	3	4	1	28	6	11	156	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1058	2	0	0	0	0	3	4	1	28	6	11	156	0	0	0	0	0	6	9	9.292	7.240	6.326	6.756
1059	3	0	0	0	0	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1060	4	0	0	0	0	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.828	0.589	0.523	0.555
1061	1	0	0	0	0	3	4	1	28	0	11	151	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1062	2	0	0	0	0	3	4	1	28	0	11	151	0	0	0	0	0	6	9	9.292	7.240	6.326	6.756
1063	3	0	0	0	0	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1064	4	0	0	0	0	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.680	0.511	0.471	0.518
1065	1	0	0	0	0	3	4	1	28	6	168	145	0	0	0	0	0	6	9	4.327	4.700	5.019	6.642
1066	2	0	0	0	0	3	4	1	28	6	168	145	0	0	0	0	0	6	9	9.292	7.240	6.326	6.756
1067	3	0	0	0	0	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1068	4	0	0	0	0	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.579	0.456	0.433	0.490
1069	1	0	0	0	0	3	4	1	31	6	25	154	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1070	2	0	0	0	0	3	4	1	31	6	25	154	0	0	0	0	0	6	9	9.173	7.163	6.267	6.700
1071	3	0	0	0	0	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1072	4	0	0	0	0	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.762	0.552	0.496	0.533
1073	1	0	0	0	0	3	4	1	31	0	25	148	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1074	2	0	0	0	0	3	4	1	31	0	25	148	0	0	0	0	0	6	9	9.173	7.163	6.267	6.700
1075	3	0	0	0	0	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.343	0.427	0.480	0.536
1076	4	0	0	0	0	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.630	0.482	0.448	0.498
1077	1	0	0	0	0	3	4	1	31	6	154	143	0	0	0	0	0	6	9	4.114	4.494	4.814	6.388
1078	2	0	0	0	0	3	4	1	31	6	154	143	0	0	0	0	0	6	9	9.173	7.163	6.267	6.700
1079	3	0	0	0	0	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.341	0.425	0.478	0.534
1080	4	0	0	0	0	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.552	0.437	0.418	0.475
1081	1	0	0	0	0	1	23	1	29	6	9	156	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1082	2	0	0	0	0	1	23	1	29	6	9	156	0	0	0	0	0	6	27	4.378	3.238	2.621	2.719
1083	3	0	0	0	0	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1084	4	0	0	0	0	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.428	0.277	0.209	0.196
1085	1	0	0	0	0	1	23	1	29	0	9	150	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1086	2	0	0	0	0	1	23	1	29	0	9	150	0	0	0	0	0	6	27	4.378	3.238	2.621	2.719
1087	3	0	0	0	0	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1088	4	0	0	0	0	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.376	0.250	0.193	0.185
1089	1	0	0	0	0	1	23	1	29	6	170	144	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1090	2	0	0	0	0	1	23	1	29	6	170	144	0	0	0	0	0	6	27	4.378	3.238	2.621	2.719
1091	3	0	0	0	0	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1092	4	0	0	0	0	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.341	0.231	0.181	0.177
1093	1	0	0	0	0	1	23	1	31	6	24	154	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1094	2	0	0	0	0	1	23	1	31	6	24	154	0	0	0	0	0	6	27	4.354	3.223	2.611	2.711
1095	3	0	0	0	0	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1096	4	0	0	0	0	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.407	0.265	0.201	0.190
1097	1	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1098	2	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	6	27	4.354	3.223	2.611	2.711
1099	3	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1100	4	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.361	0.241	0.186	0.180

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
1101	1	0	0	0	0	1	23	1	31	6	155	143	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1102	2	0	0	0	0	1	23	1	31	6	155	143	0	0	0	0	0	6	27	4.354	3.223	2.611	2.711
1103	3	0	0	0	0	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1104	4	0	0	0	0	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.331	0.225	0.176	0.173
1105	1	0	0	0	0	2	23	1	29	6	9	156	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1106	2	0	0	0	0	2	23	1	29	6	9	156	0	0	0	0	0	6	27	4.217	3.104	2.643	2.782
1107	3	0	0	0	0	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1108	4	0	0	0	0	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.355	0.193	0.229	0.263
1109	1	0	0	0	0	2	23	1	29	0	9	150	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1110	2	0	0	0	0	2	23	1	29	0	9	150	0	0	0	0	0	6	27	4.217	3.104	2.643	2.782
1111	3	0	0	0	0	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1112	4	0	0	0	0	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.303	0.167	0.212	0.252
1113	1	0	0	0	0	2	23	1	29	6	170	144	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1114	2	0	0	0	0	2	23	1	29	6	170	144	0	0	0	0	0	6	27	4.217	3.104	2.643	2.782
1115	3	0	0	0	0	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1116	4	0	0	0	0	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.267	0.147	0.200	0.244
1117	1	0	0	0	0	2	23	1	31	6	24	154	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1118	2	0	0	0	0	2	23	1	31	6	24	154	0	0	0	0	0	6	27	4.196	3.092	2.633	2.772
1119	3	0	0	0	0	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1120	4	0	0	0	0	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.335	0.183	0.220	0.256
1121	1	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1122	2	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	6	27	4.196	3.092	2.633	2.772
1123	3	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1124	4	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.289	0.159	0.205	0.245
1125	1	0	0	0	0	2	23	1	31	6	155	143	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1126	2	0	0	0	0	2	23	1	31	6	155	143	0	0	0	0	0	6	27	4.196	3.092	2.633	2.772
1127	3	0	0	0	0	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1128	4	0	0	0	0	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.259	0.142	0.195	0.238
1129	1	0	0	0	0	3	23	1	29	6	9	156	0	0	0	0	0	6	27	9.493	0.821	8.764	10.677
1130	2	0	0	0	0	3	23	1	29	6	9	156	0	0	0	0	0	6	27	4.350	3.223	2.631	2.740
1131	3	0	0	0	0	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1132	4	0	0	0	0	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.415	0.268	0.217	0.217
1133	1	0	0	0	0	3	23	1	29	0	9	150	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1134	2	0	0	0	0	3	23	1	29	0	9	150	0	0	0	0	0	6	27	4.350	3.223	2.631	2.740
1135	3	0	0	0	0	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1136	4	0	0	0	0	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.363	0.241	0.201	0.207
1137	1	0	0	0	0	3	23	1	29	6	170	144	0	0	0	0	0	6	27	9.493	8.821	8.764	10.677
1138	2	0	0	0	0	3	23	1	29	6	170	144	0	0	0	0	0	6	27	4.350	3.223	2.631	2.740
1139	3	0	0	0	0	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1140	4	0	0	0	0	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.328	0.223	0.189	0.199
1141	1	0	0	0	0	3	23	1	31	6	24	154	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1142	2	0	0	0	0	3	23	1	31	6	24	154	0	0	0	0	0	6	27	4.326	3.209	2.621	2.731
1143	3	0	0	0	0	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1144	4	0	0	0	0	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.394	0.256	0.209	0.211

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPIDD	SZUFNN	VIZEEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1145	1	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1146	2	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	6	27	4.326	3.209	2.621	2.731
1147	3	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.687	0.747	0.787	0.815
1148	4	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.348	0.232	0.194	0.201
1149	1	0	0	0	0	3	23	1	31	6	155	143	0	0	0	0	0	6	27	9.220	8.584	8.539	10.412
1150	2	0	0	0	0	3	23	1	31	6	155	143	0	0	0	0	0	6	27	4.326	3.209	2.621	2.731
1151	3	0	0	0	0	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.686	0.745	0.786	0.814
1152	4	0	0	0	0	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.318	0.216	0.183	0.194
1153	1	0	0	0	0	1	10	1	29	6	9	156	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1154	2	0	0	0	0	1	10	1	29	6	9	156	0	0	0	0	0	6	27	6.464	4.795	3.955	4.076
1155	3	0	0	0	0	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1156	4	0	0	0	0	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.583	0.391	0.306	0.290
1157	1	0	0	0	0	1	10	1	29	0	9	150	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1158	2	0	0	0	0	1	10	1	29	0	9	150	0	0	0	0	0	6	27	6.464	4.795	3.955	4.076
1159	3	0	0	0	0	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1160	4	0	0	0	0	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.496	0.348	0.279	0.272
1161	1	0	0	0	0	1	10	1	29	6	170	144	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1162	2	0	0	0	0	1	10	1	29	6	170	144	0	0	0	0	0	6	27	6.464	4.795	3.955	4.076
1163	3	0	0	0	0	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1164	4	0	0	0	0	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.440	0.318	0.259	0.259
1165	1	0	0	0	0	1	10	1	31	6	24	154	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1166	2	0	0	0	0	1	10	1	31	6	24	154	0	0	0	0	0	6	27	6.414	4.765	3.934	4.058
1167	3	0	0	0	0	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1168	4	0	0	0	0	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.548	0.372	0.293	0.280
1169	1	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1170	2	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	6	27	6.414	4.765	3.934	4.058
1171	3	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1172	4	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.472	0.333	0.268	0.264
1173	1	0	0	0	0	1	10	1	31	6	155	143	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1174	2	0	0	0	0	1	10	1	31	6	155	143	0	0	0	0	0	6	27	6.414	4.765	3.934	4.058
1175	3	0	0	0	0	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1176	4	0	0	0	0	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.425	0.308	0.252	0.252
1177	1	0	0	0	0	2	10	1	29	6	9	156	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1178	2	0	0	0	0	2	10	1	29	6	9	156	0	0	0	0	0	6	27	6.282	4.636	3.983	4.158
1179	3	0	0	0	0	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1180	4	0	0	0	0	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.477	0.268	0.335	0.391
1181	1	0	0	0	0	2	10	1	29	0	9	150	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1182	2	0	0	0	0	2	10	1	29	0	9	150	0	0	0	0	0	6	27	6.282	4.636	3.983	4.158
1183	3	0	0	0	0	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1184	4	0	0	0	0	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.391	0.226	0.308	0.373
1185	1	0	0	0	0	2	10	1	29	6	170	144	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1186	2	0	0	0	0	2	10	1	29	6	170	144	0	0	0	0	0	6	27	6.282	4.636	3.983	4.158
1187	3	0	0	0	0	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1180	4	0	0	0	0	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.335	0.195	0.289	0.360

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASF	SPEC	SOIL	DENS	BREF	ROPTD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1189	1	0	0	0	0	2	10	1	31	6	24	154	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1190	2	0	0	0	0	2	10	1	31	6	24	154	0	0	0	0	0	6	27	6.236	4.609	3.962	4.138
1191	3	0	0	0	0	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1192	4	0	0	0	0	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.444	0.252	0.322	0.380
1193	1	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1194	2	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	6	27	6.236	4.609	3.962	4.138
1195	3	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1196	4	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.369	0.214	0.297	0.362
1197	1	0	0	0	0	2	10	1	31	6	155	143	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1198	2	0	0	0	0	2	10	1	31	6	155	143	0	0	0	0	0	6	27	6.236	4.609	3.962	4.138
1199	3	0	0	0	0	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1200	4	0	0	0	0	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.321	0.188	0.280	0.351
1201	1	0	0	0	0	3	10	1	29	6	9	156	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1202	2	0	0	0	0	3	10	1	29	6	9	156	0	0	0	0	0	6	27	6.432	4.777	3.967	4.103
1203	3	0	0	0	0	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1204	4	0	0	0	0	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.564	0.378	0.317	0.323
1205	1	0	0	0	0	3	10	1	29	0	9	150	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1206	2	0	0	0	0	3	10	1	29	0	9	150	0	0	0	0	0	6	27	6.432	4.777	3.967	4.103
1207	3	0	0	0	0	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1208	4	0	0	0	0	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.477	0.335	0.290	0.305
1209	1	0	0	0	0	3	10	1	29	6	170	144	0	0	0	0	0	6	27	7.299	7.206	7.391	9.283
1210	2	0	0	0	0	3	10	1	29	6	170	144	0	0	0	0	0	6	27	6.432	4.777	3.967	4.103
1211	3	0	0	0	0	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1212	4	0	0	0	0	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.421	0.305	0.271	0.292
1213	1	0	0	0	0	3	10	1	31	6	24	154	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1214	2	0	0	0	0	3	10	1	31	6	24	154	0	0	0	0	0	6	27	6.383	4.748	3.946	4.084
1215	3	0	0	0	0	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1216	4	0	0	0	0	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.529	0.360	0.305	0.313
1217	1	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1218	2	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	6	27	6.383	4.748	3.946	4.084
1219	3	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.547	0.626	0.679	0.722
1220	4	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.453	0.321	0.280	0.296
1221	1	0	0	0	0	3	10	1	31	6	155	143	0	0	0	0	0	6	27	7.052	6.984	7.176	9.027
1222	2	0	0	0	0	3	10	1	31	6	155	143	0	0	0	0	0	6	27	6.383	4.748	3.946	4.084
1223	3	0	0	0	0	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.545	0.625	0.677	0.721
1224	4	0	0	0	0	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.406	0.295	0.263	0.285
1225	1	0	0	0	0	1	4	1	29	6	9	156	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1226	2	0	0	0	0	1	4	1	29	6	9	156	0	0	0	0	0	6	27	9.281	7.227	6.279	6.683
1227	3	0	0	0	0	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.34[illegible]	0.425	0.478	0.534
1228	4	0	0	0	0	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.844	0.601	0.499	0.494
1229	1	0	0	0	0	1	4	1	29	0	9	150	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1230	2	0	0	0	0	1	4	1	29	0	9	150	0	0	0	0	0	6	27	9.281	7.227	6.279	6.683
1231	3	0	0	0	0	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1232	4	0	0	0	0	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.691	0.521	0.446	0.456

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1233	1	0	0	0	0	1	4	1	29	6	170	144	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1234	2	0	0	0	0	1	4	1	29	6	170	144	0	0	0	0	0	6	27	9.281	7.227	6.279	6.683
1235	3	0	0	0	0	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1236	4	0	0	0	0	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.597	0.469	0.409	0.430
1237	1	0	0	0	0	1	4	1	31	6	24	154	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1238	2	0	0	0	0	1	4	1	31	6	24	154	0	0	0	0	0	6	27	9.173	7.157	6.226	6.634
1239	3	0	0	0	0	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1240	4	0	0	0	0	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.783	0.567	0.475	0.475
1241	1	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1242	2	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	6	27	9.173	7.157	6.226	6.634
1243	3	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1244	4	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.651	0.496	0.427	0.441
1245	1	0	0	0	0	1	4	1	31	6	155	143	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1246	2	0	0	0	0	1	4	1	31	6	155	143	0	0	0	0	0	6	27	9.173	7.157	6.226	6.634
1247	3	0	0	0	0	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1248	4	0	0	0	0	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.573	0.452	0.396	0.418
1249	1	0	0	0	0	2	4	1	29	6	9	156	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1250	2	0	0	0	0	2	4	1	29	6	9	156	0	0	0	0	0	6	27	9.060	7.019	6.321	6.820
1251	3	0	0	0	0	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1252	4	0	0	0	0	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.694	0.417	0.548	0.662
1253	1	0	0	0	0	2	4	1	29	0	9	150	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1254	2	0	0	0	0	2	4	1	29	0	9	150	0	0	0	0	0	6	27	9.060	7.019	6.321	6.820
1255	3	0	0	0	0	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1256	4	0	0	0	0	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.543	0.338	0.495	0.623
1257	1	0	0	0	0	2	4	1	29	6	170	144	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1258	2	0	0	0	0	2	4	1	29	6	170	144	0	0	0	0	0	6	27	9.060	7.019	6.321	6.820
1259	3	0	0	0	0	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1260	4	0	0	0	0	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.448	0.285	0.458	0.597
1261	1	0	0	0	0	2	4	1	31	6	24	154	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1262	2	0	0	0	0	2	4	1	31	6	24	154	0	0	0	0	0	6	27	8.957	6.954	6.267	6.768
1263	3	0	0	0	0	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1264	4	0	0	0	0	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.637	0.387	0.523	0.640
1265	1	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1266	2	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	6	27	8.957	6.954	6.267	6.768
1267	3	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1268	4	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.505	0.317	0.475	0.604
1269	1	0	0	0	0	2	4	1	31	6	155	143	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1270	2	0	0	0	0	2	4	1	31	6	155	143	0	0	0	0	0	6	27	8.957	6.954	6.267	6.768
1271	3	0	0	0	0	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1272	4	0	0	0	0	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.427	0.272	0.444	0.581
1273	1	0	0	0	0	3	4	1	29	6	9	156	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1274	2	0	0	0	0	3	4	1	29	6	9	156	0	0	0	0	0	6	27	9.242	7.204	6.297	6.726
1275	3	0	0	0	0	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1276	4	0	0	0	0	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.817	0.582	0.518	0.550

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	R K E F	O PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1277	1	0	0	0	0	3	4	1	29	0	9	150	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1278	2	0	0	0	0	3	4	1	9	0	9	150	0	0	0	0	0	6	27	9.242	7.204	6.297	6.726
1279	3	0	0	0	0	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1280	4	0	0	0	0	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.665	0.502	0.464	0.512
1281	1	0	0	0	0	3	4	1	29	6	170	144	0	0	0	0	0	6	27	4.272	4.645	4.963	6.572
1282	2	0	0	0	0	3	4	1	29	6	170	144	0	0	0	0	0	6	27	9.242	7.204	6.297	6.726
1283	3	0	0	0	0	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1284	4	0	0	0	0	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.571	0.450	0.428	0.486
1285	1	0	0	0	0	3	4	1	31	6	24	154	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1286	2	0	0	0	0	3	4	1	31	6	24	154	0	0	0	0	0	6	27	9.135	7.135	6.243	6.676
1287	3	0	0	0	0	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1288	4	0	0	0	0	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.756	0.549	0.493	0.530
1289	1	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1290	2	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	6	27	9.135	7.135	6.243	6.676
1291	3	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.343	0.427	0.480	0.536
1292	4	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.625	0.478	0.445	0.495
1293	1	0	0	0	0	3	4	1	31	6	155	143	0	0	0	0	0	6	27	4.082	4.462	4.780	6.346
1294	2	0	0	0	0	3	4	1	31	6	155	143	0	0	0	0	0	6	27	9.135	7.135	6.243	6.676
1295	3	0	0	0	0	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.341	0.425	0.478	0.534
1296	4	0	0	0	0	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.547	0.434	0.414	0.472
1297	1	0	0	0	0	1	23	1	29	6	10	155	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1298	2	0	0	0	0	1	23	1	29	6	10	155	0	0	0	0	0	7	5	4.370	3.233	2.618	2.716
1299	3	0	0	0	0	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.686	0.745	0.766	0.814
1300	4	0	0	0	0	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.423	0.274	0.207	0.194
1301	1	0	0	0	0	1	23	1	29	0	10	150	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1302	2	0	0	0	0	1	23	1	29	0	10	150	0	0	0	0	0	7	5	4.370	3.233	2.618	2.716
1303	3	0	0	0	0	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1304	4	0	0	0	0	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.370	0.247	0.190	0.183
1305	1	0	0	0	0	1	23	1	29	6	169	144	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1306	2	0	0	0	0	1	23	1	29	6	169	144	0	0	0	0	0	7	5	4.370	3.233	2.618	2.716
1307	3	0	0	0	0	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1308	4	0	0	0	0	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.337	0.229	0.179	0.176
1309	1	0	0	0	0	1	23	1	31	6	24	153	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1310	2	0	0	0	0	1	23	1	31	6	24	153	0	0	0	0	0	7	5	4.344	3.217	2.607	2.707
1311	3	0	0	0	0	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1312	4	0	0	0	0	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.401	0.261	0.199	0.188
1313	1	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1314	2	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	7	5	4.344	3.217	2.607	2.707
1315	3	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1316	4	0	0	0	0	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.356	0.238	0.184	0.178
1317	1	0	0	0	0	1	23	1	31	6	155	142	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1318	2	0	0	0	0	1	23	1	31	6	155	142	0	0	0	0	0	7	5	4.344	3.217	2.607	2.707
1319	3	0	0	0	0	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1320	4	0	0	0	0	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.327	0.222	0.174	0.171

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTD	PIDD	SZUENN	VIZEEWN	ARZEIELM	SCANTG	IXLLU	VXIEH	TXCVR	GXCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1321	1	0	0	0	0	2	23	1	29	6	10	155	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1322	2	0	0	0	0	2	23	1	29	6	10	155	0	0	0	0	0	7	5	4.210	3.100	2.639	2.778
1323	3	0	0	0	0	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1324	4	0	0	0	0	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.350	0.190	0.227	0.261
1325	1	0	0	0	0	2	23	1	29	0	10	150	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1326	2	0	0	0	0	2	23	1	29	0	10	150	0	0	0	0	0	7	5	4.210	3.100	2.639	2.778
1327	3	0	0	0	0	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1328	4	0	0	0	0	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.297	0.163	0.210	0.250
1329	1	0	0	0	0	2	23	1	29	6	169	144	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1330	2	0	0	0	0	2	23	1	29	6	169	144	0	0	0	0	0	7	5	4.210	3.100	2.639	2.778
1331	3	0	0	0	0	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1332	4	0	0	0	0	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.264	0.145	0.198	0.242
1333	1	0	0	0	0	2	23	1	31	6	24	153	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1334	2	0	0	0	0	2	23	1	31	6	24	153	0	0	0	0	0	7	5	4.188	3.087	2.628	2.768
1335	3	0	0	0	0	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1336	4	0	0	0	0	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.329	0.180	0.218	0.253
1337	1	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1338	2	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	7	5	4.188	3.087	2.628	2.768
1339	3	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1340	4	0	0	0	0	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.285	0.157	0.203	0.243
1341	1	0	0	0	0	2	23	1	31	6	155	142	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1342	2	0	0	0	0	2	23	1	31	6	155	142	0	0	0	0	0	7	5	4.188	3.087	2.628	2.768
1343	3	0	0	0	0	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1344	4	0	0	0	0	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.255	0.140	0.193	0.236
1345	1	0	0	0	0	3	23	1	29	6	10	155	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1346	2	0	0	0	0	3	23	1	29	6	10	155	0	0	0	0	0	7	5	4.342	3.218	2.628	2.736
1347	3	0	0	0	0	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1348	4	0	0	0	0	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.410	0.265	0.215	0.216
1349	1	0	0	0	0	3	23	1	29	0	10	150	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1350	2	0	0	0	0	3	23	1	29	0	10	150	0	0	0	0	0	7	5	4.342	3.218	2.628	2.736
1351	3	0	0	0	0	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1352	4	0	0	0	0	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.357	0.238	0.198	0.205
1353	1	0	0	0	0	3	23	1	29	6	169	144	0	0	0	0	0	7	5	9.409	8.748	8.695	10.595
1354	2	0	0	0	0	3	23	1	29	6	169	144	0	0	0	0	0	7	5	4.342	3.218	2.628	2.736
1355	3	0	0	0	0	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1356	4	0	0	0	0	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.324	0.220	0.187	0.197
1357	1	0	0	0	0	3	23	1	31	6	24	153	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1358	2	0	0	0	0	3	23	1	31	6	24	153	0	0	0	0	0	7	5	4.316	3.203	2.617	2.727
1359	3	0	0	0	0	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1360	4	0	0	0	0	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.388	0.253	0.207	0.209
1361	1	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1362	2	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	7	5	4.316	3.203	2.617	2.727
1363	3	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.687	0.747	0.787	0.815
1364	4	0	0	0	0	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.343	0.229	0.192	0.199

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1365	1	0	0	0	0	3	23	1	31	6	155	142	0	0	0	0	0	7	5	9.126	8.502	8.461	10.319
1366	2	0	0	0	0	3	23	1	31	6	155	142	0	0	0	0	0	7	5	4.316	3.203	2.617	2.727
1367	3	0	0	0	0	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.686	0.745	0.786	0.814
1368	4	0	0	0	0	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.314	0.213	0.181	0.192
1369	1	0	0	0	0	1	10	1	29	6	10	155	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1370	2	0	0	0	0	1	10	1	29	6	10	155	0	0	0	0	0	7	5	6.447	4.785	3.948	4.070
1371	3	0	0	0	0	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1372	4	0	0	0	0	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.574	0.387	0.303	0.288
1373	1	0	0	0	0	1	10	1	29	0	10	150	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1374	2	0	0	0	0	1	10	1	29	0	10	150	0	0	0	0	0	7	5	6.447	4.785	3.948	4.070
1375	3	0	0	0	0	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1376	4	0	0	0	0	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.486	0.342	0.275	0.269
1377	1	0	0	0	0	1	10	1	29	6	169	144	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1378	2	0	0	0	0	1	10	1	29	6	169	144	0	0	0	0	0	7	5	6.447	4.785	3.948	4.070
1379	3	0	0	0	0	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1380	4	0	0	0	0	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.435	0.314	0.257	0.257
1381	1	0	0	0	0	1	10	1	31	6	24	153	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1382	2	0	0	0	0	1	10	1	31	6	24	153	0	0	0	0	0	7	5	6.395	4.753	3.926	4.051
1383	3	0	0	0	0	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1384	4	0	0	0	0	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.537	0.367	0.289	0.277
1385	1	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1386	2	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	7	5	6.395	4.753	3.926	4.051
1387	3	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1388	4	0	0	0	0	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.465	0.329	0.265	0.261
1389	1	0	0	0	0	1	10	1	31	6	155	142	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1390	2	0	0	0	0	1	10	1	31	6	155	142	0	0	0	0	0	7	5	6.395	4.753	3.926	4.051
1391	3	0	0	0	0	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1392	4	0	0	0	0	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.418	0.304	0.249	0.250
1393	1	0	0	0	0	2	10	1	29	6	10	155	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1394	2	0	0	0	0	2	10	1	29	6	10	155	0	0	0	0	0	7	5	6.267	4.627	3.976	4.151
1395	3	0	0	0	0	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1396	4	0	0	0	0	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.469	0.265	0.332	0.388
1397	1	0	0	0	0	2	10	1	29	0	10	150	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1398	2	0	0	0	0	2	10	1	29	0	10	150	0	0	0	0	0	7	5	6.267	4.627	3.976	4.151
1399	3	0	0	0	0	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1400	4	0	0	0	0	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.381	0.221	0.304	0.369
1401	1	0	0	0	0	2	10	1	29	6	169	144	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1402	2	0	0	0	0	2	10	1	29	6	169	144	0	0	0	0	0	7	5	6.267	4.627	3.976	4.151
1403	3	0	0	0	0	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1404	4	0	0	0	0	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.330	0.192	0.286	0.357
1405	1	0	0	0	0	2	10	1	31	6	24	153	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1406	2	0	0	0	0	2	10	1	31	6	24	153	0	0	0	0	0	7	5	6.219	4.599	3.954	4.130
1407	3	0	0	0	0	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1408	4	0	0	0	0	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.435	0.247	0.318	0.376

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *****   00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	%ILLU	%VIEW	%TCVR	%GCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1409	1	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1410	2	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	7	5	6.219	4.599	3.954	4.130
1411	3	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1412	4	0	0	0	0	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.363	0.210	0.294	0.359
1413	1	0	0	0	0	2	10	1	31	6	155	142	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1414	2	0	0	0	0	2	10	1	31	6	155	142	0	0	0	0	0	7	5	6.219	4.599	3.954	4.130
1415	3	0	0	0	0	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1416	4	0	0	0	0	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.316	0.185	0.277	0.347
1417	1	0	0	0	0	3	10	1	29	6	10	155	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1418	2	0	0	0	0	3	10	1	29	6	10	155	0	0	0	0	0	7	5	6.416	4.767	3.959	4.097
1419	3	0	0	0	0	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1420	4	0	0	0	0	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.556	0.374	0.314	0.321
1421	1	0	0	0	0	3	10	1	29	0	10	150	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1422	2	0	0	0	0	3	10	1	29	0	10	150	0	0	0	0	0	7	5	6.416	4.767	3.959	4.097
1423	3	0	0	0	0	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1424	4	0	0	0	0	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.467	0.329	0.286	0.302
1425	1	0	0	0	0	3	10	1	29	6	169	144	0	0	0	0	0	7	5	7.223	7.137	7.325	9.204
1426	2	0	0	0	0	3	10	1	29	6	169	144	0	0	0	0	0	7	5	6.416	4.767	3.959	4.097
1427	3	0	0	0	0	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1428	4	0	0	0	0	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.416	0.302	0.268	0.290
1429	1	0	0	0	0	3	10	1	31	6	24	153	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1430	2	0	0	0	0	3	10	1	31	6	24	153	0	0	0	0	0	7	5	6.364	4.736	3.938	4.077
1431	3	0	0	0	0	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1432	4	0	0	0	0	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.519	0.354	0.301	0.310
1433	1	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1434	2	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	7	5	6.364	4.736	3.938	4.077
1435	3	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.547	0.626	0.679	0.722
1436	4	0	0	0	0	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.446	0.317	0.276	0.294
1437	1	0	0	0	0	3	10	1	31	6	155	142	0	0	0	0	0	7	5	6.966	6.907	7.102	8.938
1438	2	0	0	0	0	3	10	1	31	6	155	142	0	0	0	0	0	7	5	6.364	4.736	3.938	4.077
1439	3	0	0	0	0	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.545	0.625	0.677	0.721
1440	4	0	0	0	0	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.400	0.291	0.260	0.282
1441	1	0	0	0	0	1	4	1	29	6	10	155	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1442	2	0	0	0	0	1	4	1	29	6	10	155	0	0	0	0	0	7	5	9.246	7.204	6.2[illegible]2	6.667
1443	3	0	0	0	0	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1444	4	0	0	0	0	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.829	0.594	0.494	0.489
1445	1	0	0	0	0	1	4	1	29	0	10	150	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1446	2	0	0	0	0	1	4	1	29	0	10	150	0	0	0	0	0	7	5	9.246	7.204	6.262	6.667
1447	3	0	0	0	0	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1448	4	0	0	0	0	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.673	0.511	0.438	0.451
1449	1	0	0	0	0	1	4	1	29	6	169	144	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1450	2	0	0	0	0	1	4	1	29	6	169	144	0	0	0	0	0	7	5	9.246	7.204	6.262	6.667
1451	3	0	0	0	0	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1452	4	0	0	0	0	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.588	0.463	0.405	0.426

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOTL	DENS	BREF	O PI TD	D PI DD	SZ UE NN	V TZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1453	1	0	0	0	0	1	4	1	31	6	24	153	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1454	2	0	0	0	0	1	4	1	31	6	24	153	0	0	0	0	0	7	5	9.133	7.132	6.206	6.615
1455	3	0	0	0	0	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1456	4	0	0	0	0	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.765	0.557	0.468	0.469
1457	1	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1458	2	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	7	5	9.133	7.132	6.206	6.615
1459	3	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1460	4	0	0	0	0	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.640	0.489	0.422	0.436
1461	1	0	0	0	0	1	4	1	31	6	155	142	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1462	2	0	0	0	0	1	4	1	31	6	155	142	0	0	0	0	0	7	5	9.133	7.132	6.206	6.615
1463	3	0	0	0	0	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1464	4	0	0	0	0	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.563	0.445	0.391	0.413
1465	1	0	0	0	0	2	4	1	29	6	10	155	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1466	2	0	0	0	0	2	4	1	29	6	10	155	0	0	0	0	0	7	5	9.028	6.998	6.304	6.803
1467	3	0	0	0	0	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1468	4	0	0	0	0	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.681	0.411	0.542	0.657
1469	1	0	0	0	0	2	4	1	29	0	10	150	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1470	2	0	0	0	0	2	4	1	29	0	10	150	0	0	0	0	0	7	5	9.028	6.998	6.304	6.803
1471	3	0	0	0	0	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1472	4	0	0	0	0	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.526	0.329	0.487	0.616
1473	1	0	0	0	0	2	4	1	29	6	169	144	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1474	2	0	0	0	0	2	4	1	29	6	169	144	0	0	0	0	0	7	5	9.028	6.998	6.304	6.803
1475	3	0	0	0	0	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1476	4	0	0	0	0	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.440	0.280	0.453	0.592
1477	1	0	0	0	0	2	4	1	31	6	24	153	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1478	2	0	0	0	0	2	4	1	31	6	24	153	0	0	0	0	0	7	5	8.920	6.930	6.247	6.748
1479	3	0	0	0	0	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1480	4	0	0	0	0	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.621	0.379	0.516	0.633
1481	1	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1482	2	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	7	5	8.920	6.930	6.247	6.748
1483	3	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1484	4	0	0	0	0	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.496	0.311	0.469	0.598
1485	1	0	0	0	0	2	4	1	31	6	155	142	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1486	2	0	0	0	0	2	4	1	31	6	155	142	0	0	0	0	0	7	5	8.920	6.930	6.247	6.748
1487	3	0	0	0	0	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1488	4	0	0	0	0	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.418	0.267	0.438	0.575
1489	1	0	0	0	0	3	4	1	29	6	10	155	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1490	2	0	0	0	0	3	4	1	29	6	10	155	0	0	0	0	0	7	5	9.208	7.182	6.279	6.709
1491	3	0	0	0	0	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1492	4	0	0	0	0	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.803	0.575	0.512	0.545
1493	1	0	0	0	0	3	4	1	29	0	10	150	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1494	2	0	0	0	0	3	4	1	29	0	10	150	0	0	0	0	0	7	5	9.208	7.182	6.279	6.709
1495	3	0	0	0	0	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1496	4	0	0	0	0	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.647	0.492	0.457	0.506

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 00:14:29 04-21-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND ATMOSPHERIC FEATURES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BRFF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	M ON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1497	1	0	0	0	0	3	4	1	29	6	169	144	0	0	0	0	0	7	5	4.214	4.589	4.907	6.502
1498	2	0	0	0	0	3	4	1	29	6	169	144	0	0	0	0	0	7	5	9.208	7.182	6.279	6.709
1499	3	0	0	0	0	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1500	4	0	0	0	0	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.562	0.444	0.423	0.481
1501	1	0	0	0	0	3	4	1	31	6	24	153	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1502	2	0	0	0	0	3	4	1	31	6	24	153	0	0	0	0	0	7	5	9.096	7.109	6.223	6.657
1503	3	0	0	0	0	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1504	4	0	0	0	0	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.739	0.539	0.486	0.524
1505	1	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1506	2	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	7	5	9.096	7.109	6.223	6.657
1507	3	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.343	0.427	0.480	0.536
1508	4	0	0	0	0	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.614	0.471	0.440	0.490
1509	1	0	0	0	0	3	4	1	31	6	155	142	0	0	0	0	0	7	5	4.017	4.399	4.717	6.267
1510	2	0	0	0	0	3	4	1	31	6	155	142	0	0	0	0	0	7	5	9.096	7.109	6.223	6.657
1511	3	0	0	0	0	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.341	0.425	0.478	0.534
1512	4	0	0	0	0	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.537	0.427	0.409	0.467

APPENDIX C

LANDSAT INBAND RADIANCES

EMERGENT WHEAT CANOPY (NO. 1)

Pages 73-88

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) ***** 16:02:44 05-12-76

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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*                                                                          *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL     *
*                                                                          *
*                 LANDSAT           INBAND RADIANCES                       *
*                                                                          *
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** EMERGENT STAGE, MID NOVEMBER ***

47

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

CANOPY PARAMETERS

BASE CANOPY ('BASE')

1	WHEAT, EMERGENT	MID NOV
2	WHEAT, JOINTING	MID APR
3	WHEAT, PRE-HEAD	MID MAY
4	WHEAT, POST-HEAD	END MAY
5	WHEAT, SENESCING	MID JUN
6	WHEAT, RIPE	END JUN
7	WHEAT, HARVESTED	EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

ATMOSPHERIC PARAMETERS

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR
STANDARD ATMOSPHERES,
LABELED BY HORIZONTAL
VISUAL RANGE (KM):
4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT
APPLICABLE IN ALL CASES

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	DPITD	OPIDD	SZUENM	VIZEEWN	ARZFILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	1	1	1	20	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.358	0.341	0.382	0.490
2	8	1	1	1	100	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.317	0.266	0.392	0.522
3	8	1	1	1	200	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.294	0.225	0.418	0.575
4	8	1	1	2	20	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.456	0.459	0.520	0.664
5	8	1	1	2	100	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.365	0.323	0.487	0.651
6	8	1	1	2	200	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.313	0.249	0.480	0.667
7	8	1	1	3	20	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.555	0.578	0.658	0.840
8	8	1	1	3	100	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.413	0.382	0.586	0.787
9	8	1	1	3	200	1	23	1	61	6	50	122	0	0	0	0	0	11	15	0.333	0.273	0.547	0.766
10	8	1	1	1	20	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.349	0.337	0.375	0.482
11	8	1	1	1	100	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.305	0.260	0.368	0.489
12	8	1	1	1	200	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.279	0.216	0.380	0.521
13	8	1	1	2	20	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.448	0.456	0.513	0.656
14	8	1	1	2	100	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.354	0.320	0.466	0.622
15	8	1	1	2	200	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.300	0.242	0.446	0.617
16	8	1	1	3	20	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.547	0.576	0.653	0.833
17	8	1	1	3	100	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.404	0.380	0.568	0.761
18	8	1	1	3	200	1	23	1	61	0	50	118	0	0	0	0	0	11	15	0.321	0.268	0.516	0.721
19	8	1	1	1	20	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.344	0.335	0.378	0.488
20	8	1	1	1	100	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.302	0.259	0.386	0.517
21	8	1	1	1	200	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.279	0.218	0.412	0.569
22	8	1	1	2	20	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.442	0.453	0.516	0.661
23	8	1	1	2	100	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.350	0.316	0.482	0.646
24	8	1	1	2	200	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.298	0.241	0.474	0.661
25	8	1	1	3	20	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.541	0.572	0.654	0.837
26	8	1	1	3	100	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.398	0.375	0.581	0.782
27	8	1	1	3	200	1	23	1	61	6	129	114	0	0	0	0	0	11	15	0.317	0.265	0.541	0.760
28	8	1	1	1	20	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.305	0.279	0.309	0.393
29	8	1	1	1	100	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.271	0.217	0.313	0.414
30	8	1	1	1	200	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.254	0.187	0.333	0.454
31	8	1	1	2	20	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.379	0.370	0.415	0.529
32	8	1	1	2	100	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.305	0.259	0.385	0.511
33	8	1	1	2	200	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.267	0.203	0.379	0.522
34	8	1	1	3	20	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.454	0.461	0.523	0.666
35	8	1	1	3	100	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.340	0.301	0.459	0.614
36	8	1	1	3	200	1	23	1	67	6	54	115	0	0	0	0	0	11	15	0.280	0.219	0.428	0.596
37	8	1	1	1	20	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.299	0.277	0.303	0.386
38	8	1	1	1	100	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.262	0.213	0.294	0.386
39	8	1	1	1	200	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.243	0.180	0.302	0.409
40	8	1	1	2	20	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.374	0.368	0.410	0.523
41	8	1	1	2	100	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.296	0.256	0.367	0.486
42	8	1	1	2	200	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.258	0.198	0.350	0.480
43	8	1	1	3	20	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.449	0.460	0.518	0.660
44	8	1	1	3	100	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.334	0.300	0.443	0.591

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	1	1	3	200	1	23	1	67	0	54	112	0	0	0	0	0	11	15	0.272	0.216	0.402	0.557
46	8	1	1	1	20	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.296	0.276	0.307	0.393
47	8	1	1	1	100	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.261	0.213	0.310	0.411
48	8	1	1	1	200	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.244	0.183	0.330	0.451
49	8	1	1	2	20	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.370	0.367	0.414	0.528
50	8	1	1	2	100	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.296	0.255	0.382	0.509
51	8	1	1	2	200	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.257	0.199	0.376	0.519
52	8	1	1	3	20	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.445	0.457	0.521	0.665
53	8	1	1	3	100	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.330	0.297	0.456	0.611
54	8	1	1	3	200	1	23	1	67	6	126	108	0	0	0	0	0	11	15	0.270	0.215	0.425	0.593
55	8	1	1	1	20	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.316	0.291	0.394	0.530
56	8	1	1	1	100	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.275	0.217	0.404	0.562
57	8	1	1	1	200	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.252	0.177	0.430	0.616
58	8	1	1	2	20	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.413	0.408	0.532	0.705
59	8	1	1	2	100	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.322	0.274	0.499	0.692
60	8	1	1	2	200	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.271	0.200	0.493	0.708
61	8	1	1	3	20	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.510	0.526	0.670	0.882
62	8	1	1	3	100	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.370	0.331	0.599	0.829
63	8	1	1	3	200	2	23	1	61	6	50	122	0	0	0	0	0	11	15	0.291	0.224	0.560	0.808
64	8	1	1	1	20	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.307	0.287	0.387	0.522
65	8	1	1	1	100	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.263	0.211	0.380	0.529
66	8	1	1	1	200	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.238	0.168	0.392	0.561
67	8	1	1	2	20	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.404	0.405	0.525	0.697
68	8	1	1	2	100	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.312	0.271	0.478	0.662
69	8	1	1	2	200	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.259	0.194	0.458	0.657
70	8	1	1	3	20	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.503	0.524	0.665	0.875
71	8	1	1	3	100	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.362	0.330	0.580	0.802
72	8	1	1	3	200	2	23	1	61	0	50	118	0	0	0	0	0	11	15	0.279	0.219	0.528	0.762
73	8	1	1	1	20	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.302	0.285	0.390	0.528
74	8	1	1	1	100	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.260	0.210	0.398	0.557
75	8	1	1	1	200	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.237	0.169	0.424	0.610
76	8	1	1	2	20	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.399	0.402	0.528	0.702
77	8	1	1	2	100	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.307	0.267	0.494	0.687
78	8	1	1	2	200	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.256	0.193	0.487	0.702
79	8	1	1	3	20	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.496	0.519	0.667	0.879
80	8	1	1	3	100	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.355	0.324	0.594	0.824
81	8	1	1	3	200	2	23	1	61	6	129	114	0	0	0	0	0	11	15	0.275	0.216	0.554	0.802
82	8	1	1	1	20	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.272	0.240	0.318	0.425
83	8	1	1	1	100	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.239	0.179	0.323	0.446
84	8	1	1	1	200	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.222	0.149	0.343	0.486
85	8	1	1	2	20	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.346	0.330	0.425	0.561
86	8	1	1	2	100	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.273	0.220	0.394	0.544
87	8	1	1	2	200	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.235	0.165	0.389	0.555
88	8	1	1	3	20	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.420	0.420	0.532	0.699

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

CASE	ID	CANOPY PARAMETERS BASE	SPEC	SOIL	DFNS	ATMOSPHERIC CHARACTERISTICS BREF	OPITD	OPIDD	VIEW GEOMETRY SZUFNN	VIZEEWN	ARZEILM	SCAANTG	CANOPY CHARACTERISTICS I%LLU	V%IEH	T%CVR	G%CVR	TIME AND PLACE LAT	MONTH	DAY	INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS) 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	1	1	3	100	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.307	0.261	0.469	0.647
90	8	1	1	3	200	2	23	1	67	6	54	115	0	0	0	0	0	11	15	0.248	0.181	0.438	0.629
91	8	1	1	1	20	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.266	0.238	0.313	0.418
92	8	1	1	1	100	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.230	0.175	0.303	0.418
93	8	1	1	1	200	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.211	0.143	0.311	0.441
94	8	1	1	2	20	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.340	0.329	0.420	0.555
95	8	1	1	2	100	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.265	0.218	0.376	0.518
96	8	1	1	2	200	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.225	0.160	0.360	0.512
97	8	1	1	3	20	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.415	0.419	0.528	0.693
98	8	1	1	3	100	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.301	0.261	0.453	0.623
99	8	1	1	3	200	2	23	1	67	0	54	112	0	0	0	0	0	11	15	0.240	0.177	0.411	0.589
100	8	1	1	1	20	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.263	0.237	0.316	0.424
101	8	1	1	1	100	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.229	0.175	0.320	0.443
102	8	1	1	1	200	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.212	0.145	0.339	0.483
103	8	1	1	2	20	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.337	0.327	0.423	0.560
104	8	1	1	2	100	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.263	0.216	0.391	0.541
105	8	1	1	2	200	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.225	0.161	0.385	0.551
106	8	1	1	3	20	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.411	0.417	0.531	0.698
107	8	1	1	3	100	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.297	0.257	0.466	0.644
108	8	1	1	3	200	2	23	1	67	6	126	108	0	0	0	0	0	11	15	0.238	0.177	0.435	0.625
109	8	1	1	1	20	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.351	0.335	0.387	0.503
110	8	1	1	1	100	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.310	0.261	0.397	0.535
111	8	1	1	1	200	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.287	0.220	0.423	0.589
112	8	1	1	2	20	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.449	0.454	0.524	0.677
113	8	1	1	2	100	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.357	0.318	0.492	0.664
114	8	1	1	2	200	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.306	0.244	0.485	0.680
115	8	1	1	3	20	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.547	0.572	0.663	0.854
116	8	1	1	3	100	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.405	0.376	0.591	0.801
117	8	1	1	3	200	3	23	1	61	6	50	122	0	0	0	0	0	11	15	0.325	0.267	0.552	0.780
118	8	1	1	1	20	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.341	0.331	0.380	0.495
119	8	1	1	1	100	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.297	0.255	0.373	0.502
120	8	1	1	1	200	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.272	0.211	0.385	0.534
121	8	1	1	2	20	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.440	0.451	0.518	0.670
122	8	1	1	2	100	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.347	0.315	0.471	0.635
123	8	1	1	2	200	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.293	0.237	0.450	0.630
124	8	1	1	3	20	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.539	0.570	0.658	0.847
125	8	1	1	3	100	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.397	0.375	0.573	0.774
126	8	1	1	3	200	3	23	1	61	0	50	118	0	0	0	0	0	11	15	0.314	0.263	0.521	0.734
127	8	1	1	1	20	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.337	0.329	0.383	0.501
128	8	1	1	1	100	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.295	0.254	0.391	0.530
129	8	1	1	1	200	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.271	0.212	0.417	0.583
130	8	1	1	2	20	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.435	0.448	0.521	0.675
131	8	1	1	2	100	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.342	0.311	0.487	0.659
132	8	1	1	2	200	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.290	0.236	0.479	0.674

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZFEWN	ARZEILM	SCAANTG	IXLLU	VXIEW	TXCVR	GXCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 900	800 TO 1100
133	8	[illegible]	1	3	20	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.533	0.566	0.659	0.851
134	8	1	1	3	100	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.390	0.369	0.586	0.796
135	8	1	1	3	200	3	23	1	61	6	129	114	0	0	0	0	0	11	15	0.310	0.260	0.546	0.774
136	8	1	1	1	20	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.299	0.275	0.313	0.404
137	8	1	1	1	100	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.265	0.213	0.317	0.424
138	8	1	1	1	200	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.248	0.183	0.337	0.465
139	8	1	1	2	20	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.373	0.366	0.419	0.539
140	8	1	1	2	100	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.300	0.255	0.389	0.522
141	8	1	1	2	200	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.261	0.199	0.383	0.533
142	8	1	1	3	20	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.448	0.456	0.527	0.676
143	8	1	1	3	100	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.334	0.297	0.463	0.625
144	8	1	1	3	200	3	23	1	67	6	54	115	0	0	0	0	0	11	15	0.275	0.215	0.432	0.607
145	8	1	1	1	20	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.293	0.272	0.307	0.397
146	8	1	1	1	100	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.257	0.209	0.297	0.396
147	8	1	1	1	200	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.238	0.176	0.306	0.419
148	8	1	1	2	20	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.368	0.364	0.414	0.533
149	8	1	1	2	100	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.292	0.252	0.371	0.496
150	8	1	1	2	200	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.252	0.194	0.354	0.490
151	8	1	1	3	20	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.443	0.456	0.522	0.671
152	8	1	1	3	100	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.328	0.296	0.447	0.601
153	8	1	1	3	200	3	23	1	67	0	54	112	0	0	0	0	0	11	15	0.266	0.212	0.405	0.568
154	8	1	1	1	20	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.290	0.272	0.311	0.403
155	8	1	1	1	100	3	23	1	67	6	126	108	0	0	0	[illegible]	0	11	15	0.256	0.209	0.314	0.422
156	8	1	1	1	200	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.238	0.179	0.334	0.461
157	8	1	1	2	20	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.364	0.362	0.417	0.538
158	8	1	1	2	100	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.290	0.251	0.386	0.519
159	8	1	1	2	200	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.251	0.195	0.379	0.530
160	8	1	1	3	20	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.439	0.453	0.525	0.676
161	8	1	1	3	100	3	23	1	67	6	126	108	0	0	0	0	0	11	15	0.324	0.293	0.460	0.622
162	8	1	1	3	200	3	23	1	[illegible]	6	126	108	0	0	0	0	0	11	15	0.265	0.211	0.429	0.603
163	8	1	1	1	20	1	10	1	[illegible]	6	50	122	0	0	0	0	0	11	15	0.386	0.359	0.390	0.495
164	8	1	1	1	100	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.354	0.297	0.399	0.523
165	8	1	1	1	200	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.335	0.264	0.422	0.570
166	8	1	1	2	20	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.463	0.458	0.508	0.648
167	8	1	1	2	100	1	10	1	61	6	50	122	0	[illegible]	0	0	0	11	15	0.391	0.346	0.481	0.637
168	8	1	1	2	200	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.351	0.284	0.476	0.652
169	8	1	1	3	20	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.540	0.556	0.626	0.803
170	8	1	1	3	100	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.430	0.395	0.567	0.758
171	8	1	1	3	200	1	10	1	61	6	50	122	0	0	0	0	0	11	15	0.367	0.304	0.534	0.740
172	8	1	1	1	20	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.374	0.354	0.383	0.487
173	8	1	1	1	100	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.340	0.291	0.379	0.494
174	8	1	1	1	200	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.320	0.255	0.389	0.523
175	8	1	1	2	20	1	10	1	61	0	50	118	[illegible]	0	0	0	0	11	15	0.452	0.453	0.502	0.641
176	8	1	1	2	100	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.380	0.341	0.463	0.611

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	R A S E	S P E C	S O T L	D E N S	B R F F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	1	1	2	200	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.337	0.277	0.446	0.608
178	8	1	1	3	20	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.531	0.553	0.621	0.796
179	8	1	1	3	100	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.420	0.392	0.551	0.735
180	8	1	1	3	200	1	10	1	61	0	50	118	0	0	0	0	0	11	15	0.354	0.299	0.506	0.699
181	8	1	1	1	20	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.369	0.352	0.386	0.492
182	8	1	1	1	100	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.337	0.290	0.394	0.519
183	8	1	1	1	200	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.318	0.256	0.417	0.565
184	8	1	1	2	20	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.446	0.450	0.504	0.645
185	8	1	1	2	100	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.374	0.338	0.476	0.633
186	8	1	1	2	200	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.334	0.276	0.470	0.646
187	8	1	1	3	20	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.524	0.549	0.622	0.800
188	8	1	1	3	100	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.413	0.387	0.561	0.753
189	8	1	1	3	200	1	10	1	61	6	129	114	0	0	0	0	0	11	15	0.349	0.296	0.528	0.734
190	8	1	1	1	20	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.333	0.298	0.319	0.401
191	8	1	1	1	100	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.307	0.249	0.324	0.421
192	8	1	1	1	200	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.293	0.223	0.342	0.457
193	8	1	1	2	20	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.391	0.374	0.410	0.520
194	8	1	1	2	100	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.335	0.285	0.387	0.508
195	8	1	1	2	200	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.305	0.238	0.382	0.518
196	8	1	1	3	20	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.451	0.450	0.502	0.641
197	8	1	1	3	100	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.364	0.321	0.452	0.599
198	8	1	1	3	200	1	10	1	67	6	54	115	0	0	0	0	0	11	15	0.316	0.253	0.426	0.584
199	8	1	1	1	20	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.326	0.296	0.315	0.396
200	8	1	1	1	100	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.298	0.245	0.308	0.398
201	8	1	1	1	200	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.283	0.218	0.316	0.418
202	8	1	1	2	20	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.385	0.373	0.406	0.515
203	8	1	1	2	100	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.328	0.283	0.372	0.487
204	8	1	1	2	200	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.296	0.233	0.359	0.482
205	8	1	1	3	20	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.445	0.449	0.499	0.637
206	8	1	1	3	100	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.358	0.320	0.439	0.580
207	8	1	1	3	200	1	10	1	67	0	54	112	0	0	0	0	0	11	15	0.308	0.249	0.404	0.552
208	8	1	1	1	20	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.322	0.295	0.318	0.401
209	8	1	1	1	100	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.297	0.245	0.322	0.419
210	8	1	1	1	200	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.283	0.219	0.340	0.455
211	8	1	1	2	20	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.381	0.371	0.409	0.520
212	8	1	1	2	100	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.325	0.281	0.385	0.506
213	8	1	1	2	200	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.294	0.234	0.380	0.516
214	8	1	1	3	20	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.441	0.447	0.501	0.641
215	8	1	1	3	100	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.353	0.318	0.450	0.598
216	8	1	1	3	200	1	10	1	67	6	126	108	0	0	0	0	0	11	15	0.305	0.249	0.423	0.582
217	8	1	1	1	20	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.326	0.288	0.408	0.555
218	8	1	1	1	100	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.294	0.227	0.417	0.583
219	8	1	1	1	200	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.277	0.194	0.440	0.630
220	8	1	1	2	20	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.402	0.385	0.526	0.708

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	1	1	2	100	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.332	0.275	0.499	0.698
222	8	1	1	2	200	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.292	0.214	0.494	0.712
223	8	1	1	3	20	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.479	0.482	0.645	0.864
224	8	1	1	3	100	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.370	0.323	0.585	0.819
225	8	1	1	3	200	2	10	1	61	6	50	122	0	0	0	0	0	11	15	0.307	0.234	0.552	0.801
226	8	1	1	1	20	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.315	0.283	0.401	0.546
227	8	1	[illegible]	1	100	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.281	0.221	0.396	0.554
228	8	1	1	1	200	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.261	0.185	0.407	0.582
229	8	1	1	2	20	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.392	0.381	0.519	0.701
230	8	1	1	2	100	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.320	0.271	0.481	0.671
231	8	1	1	2	200	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.278	0.207	0.464	0.668
232	8	1	1	3	20	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.469	0.479	0.639	0.857
233	8	1	1	3	100	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.360	0.321	0.569	0.795
234	8	1	1	3	200	2	10	1	61	0	50	118	0	0	0	0	0	11	15	0.295	0.229	0.525	0.760
235	8	1	1	1	20	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.310	0.2[illegible]0	0.404	0.552
236	8	1	1	1	100	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.277	0.219	0.412	0.578
237	8	1	1	1	200	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.259	0.186	0.435	0.625
238	8	1	1	2	20	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.386	0.378	0.522	0.706
239	8	1	1	2	100	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.315	0.267	0.494	0.693
240	8	1	1	2	200	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.275	0.206	0.489	0.707
241	8	1	1	3	20	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.462	0.475	0.640	0.861
242	8	1	1	3	100	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.353	0.316	0.580	0.814
243	8	1	1	3	200	2	10	1	61	6	129	114	0	0	0	0	0	11	15	0.290	0.226	0.547	0.795
244	8	1	1	1	20	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.287	0.243	0.333	0.448
245	8	1	1	1	100	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.262	0.194	0.338	0.468
246	8	1	1	1	200	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.248	0.169	0.356	0.504
247	8	1	1	2	20	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.345	0.318	0.425	0.568
248	8	1	1	2	100	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.289	0.230	0.401	0.555
249	8	1	1	2	200	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.259	0.183	0.397	0.565
250	8	1	1	3	20	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.403	0.393	0.517	0.689
251	8	1	1	3	100	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.317	0.266	0.466	0.647
252	8	1	1	3	200	2	10	1	67	6	54	115	0	0	0	0	0	11	15	0.270	0.198	0.440	0.632
253	8	1	1	1	20	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.280	0.241	0.328	0.442
254	8	1	1	1	100	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.253	0.191	0.322	0.444
255	8	1	1	1	200	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.238	0.164	0.330	0.465
256	8	1	1	2	20	2	10	[illegible]	67	0	54	112	0	0	0	0	0	11	15	0.339	0.316	0.420	0.563
257	8	1	1	2	100	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.282	0.228	0.386	0.534
258	8	1	1	2	200	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.250	0.179	0.373	0.530
259	8	1	1	3	20	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.398	0.392	0.513	0.685
260	8	1	1	3	100	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.311	0.265	0.453	0.628
261	8	1	1	3	200	2	10	1	67	0	54	112	0	0	0	0	0	11	15	0.263	0.195	0.419	0.599
262	8	1	1	1	20	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.277	0.240	0.332	0.448
263	8	1	1	1	100	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.251	0.191	0.336	0.466
264	8	1	1	1	200	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.237	0.165	0.354	0.502

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

CASE	ID	CANOPY PARAMETERS: BASF	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS: BREF	OPITD	OPIDD	VIEW GEOMETRY: SZUFNN	VIZFEWN	APZFILM	SCAANTG	CANOPY CHARACTERISTICS: IXLLU	VXIEW	TXCVR	GXCVP	TIME AND PLACE: LAT	MONTH	DAY	INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS): 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	1	1	2	20	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.335	0.315	0.423	0.568
266	8	1	1	2	100	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.279	0.226	0.399	0.554
267	8	1	1	2	200	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.249	0.179	0.394	0.564
268	8	1	1	3	20	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.393	0.389	0.515	0.689
269	8	1	1	3	100	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.307	0.262	0.464	0.646
270	8	1	1	3	200	2	10	1	67	6	126	108	0	0	0	0	0	11	15	0.260	0.194	0.438	0.630
271	8	1	1	1	20	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.375	0.351	0.397	0.515
272	8	1	1	1	100	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.343	0.290	0.406	0.543
273	8	1	1	1	200	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.325	0.256	0.429	0.590
274	8	1	1	2	20	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.452	0.450	0.515	0.668
275	8	1	1	2	100	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.381	0.339	0.488	0.657
276	8	1	1	2	200	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.340	0.276	0.483	0.671
277	8	1	1	3	20	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.529	0.548	0.634	0.623
278	8	1	1	3	100	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.419	0.387	0.574	0.778
279	8	1	1	3	200	3	10	1	61	6	50	122	0	0	0	0	0	11	15	0.356	0.297	0.541	0.759
280	8	1	1	1	20	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.364	0.346	0.390	0.506
281	8	1	1	1	100	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.329	0.283	0.385	0.514
282	8	1	1	1	200	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.310	0.247	0.396	0.542
283	8	1	1	2	20	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.441	0.446	0.509	0.660
284	8	1	1	2	100	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.369	0.334	0.470	0.631
285	8	1	1	2	200	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.326	0.269	0.453	0.627
286	8	1	1	3	20	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.520	0.545	0.628	0.816
287	8	1	1	3	100	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.409	0.385	0.558	0.754
288	8	1	1	3	200	3	10	1	61	0	50	118	0	0	0	0	0	11	15	0.343	0.291	0.513	0.719
289	8	1	1	1	20	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.359	0.344	0.393	0.512
290	8	1	1	1	100	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.326	0.282	0.401	0.538
291	8	1	1	1	200	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.308	0.248	0.424	0.585
292	8	1	1	2	20	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.436	0.443	0.511	0.665
293	8	1	1	2	100	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.364	0.331	0.483	0.653
294	8	1	1	2	200	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.323	0.268	0.477	0.666
295	8	1	1	3	20	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.513	0.541	0.629	0.820
296	8	1	1	3	100	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.402	0.380	0.569	0.773
297	8	1	1	3	200	3	10	1	61	6	129	114	0	0	0	0	0	11	15	0.339	0.289	0.535	0.754
298	8	1	1	1	20	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.324	0.293	0.325	0.417
299	8	1	1	1	100	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.299	0.243	0.330	0.436
300	8	1	1	1	200	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.285	0.218	0.347	0.472
301	8	1	1	2	20	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.383	0.369	0.416	0.536
302	8	1	1	2	100	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.327	0.279	0.392	0.523
303	8	1	1	2	200	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.296	0.232	0.388	0.533
304	8	1	1	3	20	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.442	0.444	0.508	0.657
305	8	1	1	3	100	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.355	0.316	0.457	0.615
306	8	1	1	3	200	3	10	1	67	6	54	115	0	0	0	0	0	11	15	0.308	0.247	0.431	0.600
307	8	1	1	1	20	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.317	0.290	0.320	0.411
308	8	1	1	1	100	3	10	1	67	0	54	112	0	[illegible]	0	0	0	11	15	0.290	0.239	0.314	0.413

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOTL	DENS	BREF	OPITO	OPIDO	SZUENN	VIZEEWN	ARZEILM	SCAANTG	%LLU	%IEW	T %CVR	G %CVR	LAT	MNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	8	1	1	1	200	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.275	0.212	0.322	0.434
310	8	1	1	2	20	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.377	0.367	0.412	0.531
311	8	1	1	2	100	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.320	0.277	0.378	0.502
312	8	1	1	2	200	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.287	0.228	0.364	0.498
313	8	1	1	3	20	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.437	0.443	0.505	0.652
314	8	1	1	3	100	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.349	0.315	0.445	0.596
315	8	1	1	3	200	3	10	1	67	0	54	112	0	0	0	0	0	11	15	0.300	0.244	0.410	0.567
316	8	1	1	1	20	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.314	0.289	0.323	0.416
317	8	1	1	1	100	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.288	0.240	0.328	0.435
318	8	1	1	1	200	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.275	0.214	0.345	0.470
319	8	1	1	2	20	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.373	0.365	0.415	0.536
320	8	1	1	2	100	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.317	0.276	0.390	0.522
321	8	1	1	2	200	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.286	0.228	0.386	0.532
322	8	1	1	3	20	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.432	0.441	0.507	0.657
323	8	1	1	3	100	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.345	0.312	0.455	0.614
324	8	1	1	3	200	3	10	1	67	6	126	108	0	0	0	0	0	11	15	0.297	0.243	0.429	0.598
325	8	1	1	1	20	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.431	0.392	0.408	0.508
326	8	1	1	1	100	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.411	0.351	0.415	0.528
327	8	1	1	1	200	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.400	0.329	0.431	0.563
328	8	1	1	2	20	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.478	0.458	0.489	0.619
329	8	1	1	2	100	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.435	0.384	0.472	0.612
330	8	1	1	2	200	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.410	0.343	0.469	0.623
331	8	1	1	3	20	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.525	0.523	0.571	0.732
332	8	1	1	3	100	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.459	0.418	0.532	0.700
333	8	1	1	3	200	1	4	1	61	6	50	122	0	0	0	0	0	11	15	0.420	0.357	0.509	0.687
334	8	1	1	1	20	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.415	0.383	0.400	0.499
335	8	1	1	1	100	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.394	0.342	0.397	0.506
336	8	1	1	1	200	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.382	0.318	0.405	0.527
337	8	1	1	2	20	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.462	0.450	0.482	0.611
338	8	1	1	2	100	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.419	0.377	0.456	0.592
339	8	1	1	2	200	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.392	0.333	0.445	0.589
340	8	1	1	3	20	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.511	0.517	0.565	0.725
341	8	1	1	3	100	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.443	0.411	0.518	0.682
342	8	1	1	3	200	1	4	1	61	0	50	118	0	0	0	0	0	11	15	0.403	0.348	0.488	0.657
343	8	1	1	1	20	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.408	0.361	0.401	0.503
344	8	1	1	1	100	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.388	0.340	0.407	0.523
345	8	1	1	1	200	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.377	0.317	0.423	0.557
346	8	1	1	2	20	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.455	0.447	0.482	0.614
347	8	1	1	2	100	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.412	0.373	0.465	0.607
348	8	1	1	2	200	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.387	0.331	0.461	0.617
349	8	1	1	3	20	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.502	0.512	0.565	0.727
350	8	1	1	3	100	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.435	0.406	0.525	0.695
351	8	1	1	3	200	1	4	1	61	6	129	114	0	0	0	0	0	11	15	0.396	0.345	0.502	0.682
352	8	1	1	1	20	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.377	0.332	0.340	0.419

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTO	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	8	1	1	1	100	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.362	0.300	0.344	0.434
354	8	1	1	1	200	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.353	0.283	0.357	0.461
355	8	1	1	2	20	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.413	0.383	0.403	0.506
356	8	1	1	2	100	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.37[illegible]	0.325	0.389	0.499
357	8	1	1	2	200	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.360	0.293	0.386	0.507
358	8	1	1	3	20	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.449	0.433	0.467	0.593
359	8	1	1	3	100	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.397	0.351	0.435	0.567
360	8	1	1	3	200	1	4	1	67	6	54	115	0	0	0	0	0	11	15	0.368	0.304	0.417	0.557
361	8	1	1	1	20	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.368	0.328	0.335	0.415
362	8	1	1	1	100	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.352	0.296	0.333	0.418
363	8	1	1	1	200	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.342	0.277	0.339	0.434
364	8	1	1	2	20	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.404	0.379	0.399	0.502
365	8	1	1	2	100	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.370	0.322	0.378	0.485
366	8	1	1	2	200	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.350	0.289	0.370	0.482
367	8	1	1	3	20	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.441	0.431	0.463	0.590
368	8	1	1	3	100	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.389	0.348	0.426	0.554
369	8	1	1	3	200	1	4	1	67	0	54	112	0	0	0	0	0	11	15	0.358	0.300	0.402	0.534
370	8	1	1	1	20	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.363	0.327	0.337	0.419
371	8	1	1	1	100	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.348	0.295	0.342	0.434
372	8	1	1	1	200	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.339	0.278	0.354	0.460
373	8	1	1	2	20	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.399	0.377	0.401	0.505
374	8	1	1	2	100	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.365	0.320	0.386	0.498
375	8	1	1	2	200	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.346	0.288	0.384	0.506
376	8	1	1	3	20	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.435	0.428	0.464	0.593
377	8	1	1	3	100	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.383	0.345	0.432	0.566
378	8	1	1	3	200	1	4	1	67	6	126	108	0	0	0	0	0	11	15	0.354	0.299	0.415	0.556
379	8	1	1	1	20	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.349	0.288	0.436	0.605
380	8	1	1	1	100	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.329	0.248	0.443	0.626
381	8	1	1	1	200	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.318	0.226	0.460	0.661
382	8	1	1	2	20	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.395	0.353	0.518	0.717
383	8	1	1	2	100	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.353	0.281	0.501	0.710
384	8	1	1	2	200	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.328	0.240	0.498	0.721
385	8	1	1	3	20	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.442	0.417	0.601	0.831
386	8	1	1	3	100	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.376	0.313	0.561	0.799
387	8	1	1	3	200	2	4	1	61	6	50	122	0	0	0	0	0	11	15	0.338	0.254	0.539	0.787
388	8	1	1	1	20	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.333	0.280	0.428	0.596
389	8	1	1	1	100	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.312	0.239	0.426	0.603
390	8	1	1	1	200	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.300	0.216	0.434	0.624
391	8	1	1	2	20	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.380	0.345	0.511	0.709
392	8	1	1	2	100	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.337	0.273	0.485	0.689
393	8	1	1	2	200	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.311	0.231	0.474	0.687
394	8	1	1	3	20	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.427	0.411	0.594	0.824
395	8	1	1	3	100	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.361	0.307	0.547	0.781
396	8	1	1	3	200	2	4	1	61	0	50	118	0	0	0	0	0	11	15	0.321	0.246	0.517	0.755

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPI	SZUENN	VIZFEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	1	1	1	20	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.326	0.277	0.429	0.600
398	8	1	1	1	100	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.306	0.237	0.436	0.620
399	8	1	1	1	200	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.295	0.215	0.452	0.655
400	8	1	1	2	20	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.372	0.342	0.511	0.712
401	8	1	1	2	100	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.329	0.269	0.494	0.705
402	8	1	1	2	200	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.305	0.228	0.491	0.715
403	8	1	1	3	20	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.419	0.406	0.594	0.826
404	8	1	1	3	100	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.353	0.302	0.554	0.794
405	8	1	1	3	200	2	4	1	61	6	129	114	0	0	0	0	0	11	15	0.315	0.242	0.531	0.781
406	8	1	1	1	20	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.314	0.251	0.362	0.495
407	8	1	1	1	100	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.299	0.220	0.367	0.511
408	8	1	1	1	200	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.291	0.203	0.380	0.538
409	8	1	1	2	20	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.349	0.301	0.425	0.583
410	8	1	1	2	100	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.316	0.245	0.411	0.576
411	8	1	1	2	200	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.298	0.214	0.409	0.584
412	8	1	1	3	20	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.385	0.351	0.489	0.671
413	8	1	1	3	100	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.334	0.270	0.458	0.645
414	8	1	1	3	200	2	4	1	67	6	54	115	0	0	0	0	0	11	15	0.305	0.224	0.440	0.634
415	8	1	1	1	20	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.305	0.248	0.358	0.490
416	8	1	1	1	100	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.289	0.216	0.355	0.494
417	8	1	1	1	200	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.280	0.198	0.361	0.510
418	8	1	1	2	20	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.341	0.298	0.422	0.578
419	8	1	1	2	100	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.308	0.242	0.401	0.561
420	8	1	1	2	200	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.288	0.209	0.392	0.559
421	8	1	1	3	20	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.377	0.349	0.486	0.668
422	8	1	1	3	100	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.326	0.268	0.449	0.632
423	8	1	1	3	200	2	4	1	67	0	54	112	0	0	0	0	0	11	15	0.296	0.221	0.425	0.611
424	8	1	1	1	20	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.300	0.246	0.360	0.495
425	8	1	1	1	100	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.265	0.215	0.364	0.510
426	8	1	1	1	200	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.277	0.198	0.377	0.537
427	8	1	1	2	20	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.335	0.296	0.423	0.582
428	8	1	1	2	100	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.303	0.240	0.409	0.575
429	8	1	1	2	200	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.284	0.208	0.406	0.583
430	8	1	1	3	20	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.371	0.346	0.487	0.671
431	8	1	1	3	100	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.320	0.265	0.455	0.644
432	8	1	1	3	200	2	4	1	67	6	126	108	0	0	0	0	0	11	15	0.291	0.219	0.438	0.633
433	8	1	1	1	20	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.416	0.381	0.419	0.540
434	8	1	1	1	100	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.397	0.341	0.425	0.561
435	8	1	1	1	200	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.385	0.318	0.442	0.596
436	8	1	1	2	20	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.463	0.447	0.500	0.652
437	8	1	1	2	100	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.420	0.374	0.483	0.645
438	8	1	1	2	200	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.395	0.332	0.480	0.655
439	8	1	1	3	20	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.510	0.513	0.582	0.764
440	8	1	1	3	100	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.444	0.407	0.543	0.733

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V TZ EE WN	A RZ EI LM	S CA AN TG	I XL L U	V XI E W	T XC V R	G XC V C	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	1	1	3	200	3	4	1	61	6	50	122	0	0	0	0	0	11	15	0.405	0.346	0.520	0.720
442	8	1	1	1	20	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.400	0.373	0.410	0.532
443	8	1	1	1	100	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.379	0.332	0.408	0.538
444	8	1	1	1	200	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.367	0.308	0.416	0.559
445	8	1	1	2	20	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.448	0.439	0.493	0.644
446	8	1	1	2	100	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.404	0.366	0.467	0.624
447	8	1	1	2	200	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.378	0.323	0.456	0.622
448	8	1	1	3	20	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.495	0.506	0.576	0.758
449	8	1	1	3	100	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.428	0.401	0.529	0.715
450	8	1	1	3	200	3	4	1	61	0	50	118	0	0	0	0	0	11	15	0.388	0.338	0.499	0.690
451	8	1	1	1	20	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.393	0.370	0.412	0.535
452	8	1	1	1	100	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.373	0.330	0.418	0.555
453	8	1	1	1	200	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.362	0.307	0.434	0.590
454	8	1	1	2	20	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.440	0.436	0.493	0.647
455	8	1	1	2	100	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.397	0.363	0.476	0.639
456	8	1	1	2	200	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.372	0.321	0.472	0.650
457	8	1	1	3	20	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.487	0.502	0.576	0.760
458	8	1	1	3	100	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.420	0.396	0.536	0.728
459	8	1	1	3	200	3	4	1	61	6	129	114	0	0	0	0	0	11	15	0.382	0.335	0.513	0.715
460	8	1	1	1	20	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.365	0.324	0.348	0.444
461	8	1	1	1	100	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.350	0.292	0.353	0.460
462	8	1	1	1	200	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.342	0.275	0.365	0.486
463	8	1	1	2	20	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.401	0.374	0.411	0.531
464	8	1	1	2	100	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.368	0.317	0.397	0.524
465	8	1	1	2	200	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.349	0.285	0.395	0.532
466	8	1	1	3	20	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.437	0.425	0.475	0.619
467	8	1	1	3	100	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.386	0.342	0.443	0.593
468	8	1	1	3	200	3	4	1	67	6	54	115	0	0	0	0	0	11	15	0.356	0.296	0.426	0.582
469	8	1	1	1	20	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.356	0.320	0.344	0.440
470	8	1	1	1	100	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.340	0.288	0.341	0.443
471	8	1	1	1	200	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.331	0.269	0.347	0.460
472	8	1	1	2	20	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.393	0.371	0.408	0.527
473	8	1	1	2	100	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.359	0.314	0.387	0.510
474	8	1	1	2	200	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.339	0.281	0.378	0.508
475	8	1	1	3	20	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.429	0.422	0.472	0.616
476	8	1	1	3	100	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.378	0.340	0.434	0.580
477	8	1	1	3	200	3	4	1	67	0	54	112	0	0	0	0	0	11	15	0.347	0.292	0.411	0.560
478	8	1	1	1	20	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.351	0.318	0.346	0.444
479	8	1	1	1	100	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.336	0.287	0.350	0.459
480	8	1	1	1	200	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.328	0.269	0.363	0.485
481	8	1	1	2	20	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.387	0.369	0.409	0.531
482	8	1	1	2	100	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.354	0.312	0.395	0.524
483	8	1	1	2	200	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.335	0.280	0.392	0.531
484	8	1	1	3	20	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.423	0.420	0.473	0.619

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 16:02:44 05-12-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	1	1	3	100	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.372	0.337	0.441	0.592
486	8	1	1	3	200	3	4	1	67	6	126	108	0	0	0	0	0	11	15	0.343	0.291	0.423	0.581

ORIGINAL PAGE IS
OF POOR QUALITY

APPENDIX D
LANDSAT INBAND RADIANCES
JOINTING WHEAT CANOPY (NO. 2)

Pages 89-104

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

13:47:23 05-14-76

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*************************************************************************
*                                                                       *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL  *
*                                                                       *
*             LANDSAT           INBAND RADIANCES                        *
*                                                                       *
*************************************************************************
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** JOINTING STAGE, MID APRIL ***

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

|CANOPY PARAMETERS|

BASE CANOPY ('BASE')

1 WHEAT, EMERGENT MID NOV
2 WHEAT, JOINTING MID APR
3 WHEAT, PRE-HEAD MID MAY
4 WHEAT, POST-HEAD END MAY
5 WHEAT, SENESCING MID JUN
6 WHEAT, RIPE END JUN
7 WHEAT, HARVESTED EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

|ATMOSPHERIC PARAMETERS|

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR
STANDARD ATMOSPHERES,
LABELED BY HORIZONTAL
VISUAL RANGE (KM):
4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

|KEY TO OUTPUT PARAMETERS|

LABEL	DESCRIPTION
CASE	SEQUENTIAL CASE NUMBER
ID	SIMULATION TYPE (SEE PAGE 2)
BASE	CANOPY TYPE AND STRUCTURE
SPEC	SPECTRAL PROPERTY CLASS
SOIL	SOIL REFLECTANCE CLASS
DENS	PERCENT OF BASE DENSITY
BREF	BACKGROUND REFLECTANCE CLASS
OPT ID	OPTICAL THICKNESS CLASS
OPD ID	OPTICAL DEPTH CLASS
SUN ZEN	SOLAR ZENITH ANGLE
VIEW ZEN	VIEW ZENITH ANGLE
REL AZIM	RELATIVE AZIMUTH ANGLE
SCAT ANG	SCATTERING ANGLE
% ILLU	PERCENT OF SOIL ILLUMINATED
% VIEW	PER CENT OF SOIL VIEWED
% TCOVR	CANOPY PCT COVER, TOTAL
% GCOVR	CANOPY PCT COVER, GREEN LEAF
LAT	SIMULATION LATITUDE OF VIEW
MONTH	SIMULATION MONTH OF YEAR
DAY	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT APPLICABLE IN ALL CASES

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TO	O PI DD	SZ UE NN	V TZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	2	1	1	20	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.529	0.480	0.644	0.845
2	8	2	1	1	100	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.457	0.346	0.811	1.156
3	8	2	1	1	200	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.448	0.331	0.954	1.415
4	8	2	1	2	20	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.642	0.617	0.832	1.093
5	8	2	1	2	100	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.470	0.364	0.876	1.259
6	8	2	1	2	200	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.449	0.332	0.971	1.446
7	8	2	1	3	20	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.757	0.754	1.028	1.352
8	8	2	1	3	100	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.483	0.381	0.947	1.374
9	8	2	1	3	200	1	23	1	38	6	28	146	0	0	0	0	0	4	15	0.450	0.334	0.990	1.482
10	8	2	1	1	20	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.496	0.464	0.616	0.812
11	8	2	1	1	100	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.418	0.323	0.735	1.050
12	8	2	1	1	200	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.407	0.304	0.858	1.274
13	8	2	1	2	20	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.613	0.606	0.808	1.065
14	8	2	1	2	100	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.433	0.344	0.806	1.162
15	8	2	1	2	200	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.408	0.306	0.878	1.311
16	8	2	1	3	20	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.732	0.747	1.008	1.329
17	8	2	1	3	100	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.449	0.364	0.884	1.287
18	8	2	1	3	200	1	23	1	38	0	28	141	0	0	0	0	0	4	15	0.409	0.308	0.901	1.353
19	8	2	1	1	20	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.473	0.448	0.621	0.826
20	8	2	1	1	100	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.399	0.313	0.786	1.133
21	8	2	1	1	200	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.390	0.297	0.929	1.392
22	8	2	1	2	20	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.586	0.585	0.810	1.074
23	8	2	1	2	100	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.412	0.331	0.850	1.236
24	8	2	1	2	200	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.391	0.299	0.946	1.423
25	8	2	1	3	20	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.701	0.723	1.005	1.333
26	8	2	1	3	100	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.425	0.348	0.921	1.351
27	8	2	1	3	200	1	23	1	38	6	151	136	0	0	0	0	0	4	15	0.392	0.300	0.965	1.458
28	8	2	1	1	20	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.483	0.439	0.597	0.786
29	8	2	1	1	100	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.414	0.314	0.750	1.072
30	8	2	1	1	200	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.407	0.301	0.879	1.307
31	8	2	1	2	20	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.586	0.564	0.771	1.016
32	8	2	1	2	100	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.425	0.328	0.807	1.164
33	8	2	1	2	200	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.407	0.302	0.894	1.334
34	8	2	1	3	20	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.691	0.689	0.951	1.256
35	8	2	1	3	100	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.435	0.342	0.869	1.267
36	8	2	1	3	200	1	23	1	42	6	37	142	0	0	0	0	0	4	15	0.408	0.303	0.910	1.365
37	8	2	1	1	20	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.457	0.427	0.571	0.755
38	8	2	1	1	100	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.382	0.294	0.677	0.969
39	8	2	1	1	200	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.373	0.278	0.787	1.171
40	8	2	1	2	20	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.560	0.556	0.749	0.989
41	8	2	1	2	100	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.394	0.310	0.739	1.069
42	8	2	1	2	200	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.374	0.279	0.804	1.203
43	8	2	1	3	20	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.672	0.685	0.933	1.233
44	8	2	1	3	100	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.407	0.327	0.808	1.180

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	D PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	2	1	3	200	1	23	1	42	0	37	137	0	0	0	0	0	4	15	0.374	0.281	0.824	1.240
46	8	2	1	1	20	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.441	0.415	0.580	0.772
47	8	2	1	1	100	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.371	0.289	0.730	1.054
48	8	2	1	1	200	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.363	0.276	0.859	1.288
49	8	2	1	2	20	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.544	0.541	0.754	1.001
50	8	2	1	2	100	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.381	0.303	0.787	1.146
51	8	2	1	2	200	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.364	0.277	0.874	1.315
52	8	2	1	3	20	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.649	0.666	0.934	1.241
53	8	2	1	3	100	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.392	0.317	0.850	1.248
54	8	2	1	3	200	1	23	1	42	6	142	132	0	0	0	0	0	4	15	0.364	0.278	0.890	1.346
55	8	2	1	1	20	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.459	0.400	0.663	0.909
56	8	2	1	1	100	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.388	0.268	0.831	1.222
57	8	2	1	1	200	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.379	0.253	0.975	1.482
58	8	2	1	2	20	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.572	0.536	0.852	1.158
59	8	2	1	2	100	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.401	0.285	0.896	1.325
60	8	2	1	2	200	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.380	0.254	0.992	1.513
61	8	2	1	3	20	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.685	0.672	1.048	1.418
62	8	2	1	3	100	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.414	0.303	0.967	1.441
63	8	2	1	3	200	2	23	1	38	6	28	146	0	0	0	0	0	4	15	0.381	0.2[illegible]	1.011	1.549
64	8	2	1	1	20	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.427	0.385	0.635	0.876
65	8	2	1	1	100	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.350	0.246	0.755	1.115
66	8	2	1	1	200	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.329	0.226	0.878	1.340
67	8	2	1	2	20	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.543	0.525	0.828	1.130
68	8	2	1	2	100	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.365	0.266	0.826	1.227
69	8	2	1	2	200	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.340	0.228	0.898	1.377
70	8	2	1	3	20	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.660	0.666	1.028	1.395
71	8	2	1	3	100	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.381	0.286	0.904	1.353
72	8	2	1	3	200	2	23	1	38	0	28	141	0	0	0	0	0	4	15	0.341	0.230	0.921	1.419
73	8	2	1	1	20	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.404	0.369	0.640	0.890
74	8	2	1	1	100	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.331	0.235	0.806	1.199
75	8	2	1	1	200	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.322	0.219	0.949	1.459
76	8	2	1	2	20	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.516	0.504	0.829	1.140
77	8	2	1	2	100	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.344	0.252	0.871	1.302
78	8	2	1	2	200	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.322	0.221	0.966	1.490
79	8	2	1	3	20	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.629	0.641	1.025	1.400
80	8	2	1	3	100	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.357	0.270	0.942	1.417
81	8	2	1	3	200	2	23	1	38	6	151	136	0	0	0	0	0	4	15	0.323	0.222	0.986	1.525
82	8	2	1	1	20	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.418	0.364	0.615	0.847
83	8	2	1	1	100	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.350	0.240	0.768	1.134
84	8	2	1	1	200	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.343	0.228	0.898	1.370
85	8	2	1	2	20	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.520	0.488	0.789	1.077
86	8	2	1	2	100	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.361	0.254	0.826	1.226
87	8	2	1	2	200	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.343	0.229	0.913	1.397
88	8	2	1	3	20	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.624	0.612	0.970	1.318

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

CASE	ID	CANOPY PARAMETERS: BASE	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS: BREF	ROPITD	OPIDD	VIEW GEOMETRY: SZUFNN	VIZEEWN	ARZEILM	SCAANTG	CANOPY CHARACTERISTICS: IXLLU	VXIEW	TCXVR	GXCVR	TIME AND PLACE: LAT	MONTH	DAY	INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS): 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	2	1	3	100	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.371	0.268	0.889	1.329
90	8	2	1	3	200	2	23	1	42	6	37	142	0	0	0	0	0	4	15	0.544	0.230	0.930	1.428
91	8	2	.	1	20	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.393	0.352	0.589	0.815
92	8	2	1	1	100	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.316	0.221	0.695	1.030
93	8	2	1	1	200	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.309	0.205	0.806	1.233
94	8	2	1	2	20	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.498	0.480	0.767	1.050
95	8	2	1	2	100	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.331	0.237	0.758	1.130
96	8	2	1	2	200	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.310	0.206	0.823	1.265
97	8	2	1	3	20	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.605	0.608	0.952	1.295
98	8	2	1	3	100	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.343	0.253	0.827	1.242
99	8	2	1	3	200	2	23	1	42	0	37	137	0	0	0	0	0	4	15	0.311	0.208	0.843	1.302
100	8	2	1	1	20	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.376	0.341	0.598	0.832
101	8	2	1	1	100	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.307	0.215	0.749	1.116
102	8	2	1	1	200	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.299	0.203	0.878	1.350
103	8	2	1	2	20	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.478	0.465	0.772	1.063
104	8	2	1	2	100	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.317	0.229	0.806	1.208
105	8	2	1	2	200	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.300	0.204	0.893	1.378
106	8	2	1	3	20	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.582	0.589	0.953	1.303
107	8	2	1	3	100	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.328	0.243	0.869	1.311
108	8	2	1	3	200	2	23	1	42	6	142	132	0	0	0	0	0	4	15	0.300	0.205	0.910	1.409
109	8	2	1	1	20	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.516	0.471	0.651	0.865
110	8	2	1	1	100	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.444	0.338	0.819	1.178
111	8	2	1	1	200	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.436	0.323	0.962	1.437
112	8	2	1	2	20	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.630	0.608	0.840	1.114
113	8	2	1	2	100	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.458	0.355	0.884	1.281
114	8	2	1	2	200	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.436	0.324	0.979	1.468
115	8	2	1	3	20	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.744	0.746	1.036	1.373
116	8	2	1	3	100	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.471	0.373	0.955	1.396
117	8	2	1	3	200	3	23	1	38	6	28	146	0	0	0	0	0	4	15	0.437	0.325	0.998	1.503
118	8	2	1	1	20	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.484	0.456	0.623	0.833
119	8	2	1	1	100	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.406	0.315	0.743	1.071
120	8	2	1	1	200	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.395	0.296	0.866	1.296
121	8	2	1	2	20	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.601	0.597	0.816	1.086
122	8	2	1	2	100	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.421	0.335	0.814	1.183
123	8	2	1	2	200	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.396	0.298	0.886	1.333
124	8	2	1	3	20	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.719	0.739	1.016	1.350
125	8	2	1	3	100	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.437	0.356	0.892	1.308
126	8	2	1	3	200	3	23	1	38	0	28	141	0	0	0	0	0	4	15	0.397	0.300	0.908	1.374
127	8	2	1	1	20	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.461	0.440	0.629	0.847
128	8	2	1	1	100	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.387	0.305	0.794	1.155
129	8	2	1	1	200	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.378	0.289	0.937	1.414
130	8	2	1	2	20	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.574	0.577	0.818	1.095
131	8	2	1	2	100	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.400	0.322	0.858	1.258
132	8	2	1	2	200	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.379	0.291	0.954	1.445

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

CANOPY PARAMETERS						ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SUIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	2	1	3	20	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.688	0.714	1.013	1.355
134	8	2	1	3	100	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.413	0.340	0.929	1.373
135	8	2	1	3	200	3	23	1	38	6	151	136	0	0	0	0	0	4	15	0.380	0.292	0.973	1.480
136	8	2	1	1	20	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.471	0.431	0.604	0.806
137	8	2	1	1	100	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.403	0.306	0.757	1.093
138	8	2	1	1	200	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.395	0.293	0.886	1.327
139	8	2	1	2	20	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.575	0.556	0.778	1.036
140	8	2	1	2	100	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.413	0.320	0.814	1.184
141	8	2	1	2	200	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.396	0.294	0.901	1.354
142	8	2	1	3	20	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.679	0.681	0.959	1.276
143	8	2	1	3	100	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.424	0.334	0.877	1.287
144	8	2	1	3	200	3	23	1	42	6	37	142	0	0	0	0	0	4	15	0.397	0.295	0.918	1.385
145	8	2	1	1	20	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.446	0.419	0.578	0.775
146	8	2	1	1	100	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.371	0.286	0.684	0.989
147	8	2	1	1	200	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.361	0.270	0.794	1.191
148	8	2	1	2	20	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.552	0.548	0.756	1.009
149	8	2	1	2	100	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.383	0.302	0.747	1.089
150	8	2	1	2	200	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.362	0.272	0.812	1.223
151	8	2	1	3	20	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.660	0.677	0.940	1.253
152	8	2	1	3	100	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.396	0.319	0.816	1.200
153	8	2	1	3	200	3	23	1	42	0	37	137	0	0	0	0	0	4	15	0.363	0.273	0.832	1.260
154	8	2	1	1	20	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.429	0.408	0.587	0.791
155	8	2	1	1	100	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.359	0.281	0.737	1.074
156	8	2	1	1	200	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.352	0.268	0.866	1.308
157	8	2	1	2	20	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.533	0.533	0.761	1.021
158	8	2	1	2	100	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.370	0.295	0.794	1.166
159	8	2	1	2	200	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.352	0.269	0.881	1.336
160	8	2	1	3	20	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.637	0.658	0.942	1.261
161	8	2	1	3	100	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.380	0.309	0.857	1.268
162	8	2	1	3	200	3	23	1	42	6	142	132	0	0	0	0	0	4	15	0.353	0.270	0.898	1.366
163	8	2	1	1	20	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.594	0.522	0.653	0.842
164	8	2	1	1	100	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.536	0.412	0.795	1.112
165	8	2	1	1	200	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.530	0.401	0.914	1.334
166	8	2	1	2	20	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.680	0.633	0.813	1.058
167	8	2	1	2	100	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.545	0.425	0.848	1.200
168	8	2	1	2	200	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.531	0.402	0.928	1.361
169	8	2	1	3	20	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.768	0.744	0.978	1.284
170	8	2	1	3	100	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.555	0.438	0.907	1.298
171	8	2	1	3	200	1	10	1	38	6	28	146	0	0	0	0	0	4	15	0.531	0.403	0.944	1.390
172	8	2	1	1	20	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.545	0.497	0.620	0.807
173	8	2	1	1	100	1	10	1	39	0	28	141	0	0	0	0	0	4	15	0.482	0.380	0.719	1.010
174	8	2	1	1	200	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.474	0.366	0.822	1.202
175	8	2	1	2	20	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.634	0.611	0.783	1.027
176	8	2	1	2	100	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.493	0.395	0.778	1.106

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C		B	S	S	D	B				V	A	S	I	V	T	G		M					
A		A	P	O	E	R	O	D	SZ	IZ	RZ	CA	%L	%I	%C	%C	L	O	D	500	600	700	800
S	I	S	E	I	N	E	PI	PI	UE	EE	EI	AN	L	E	V	V	A	N	A	TO	TO	TO	TO
E	D	E	C	L	S	F	TD	DD	NN	WN	LM	TG	U	W	R	R	T	TH	Y	600	700	800	1100
177	8	2	1	2	200	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.475	0.367	0.838	1.233
178	8	2	1	3	20	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.725	0.726	0.952	1.257
179	8	2	1	3	100	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.503	0.410	0.842	1.213
180	8	2	1	3	200	1	10	1	38	0	28	141	0	0	0	0	0	4	15	0.476	0.368	0.857	1.269
181	8	2	1	1	20	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.511	0.475	0.621	0.816
182	8	2	1	1	100	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.452	0.364	0.760	1.083
183	8	2	1	1	200	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.446	0.353	0.880	1.305
184	8	2	1	2	20	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.597	0.586	0.780	1.033
185	8	2	1	2	100	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.461	0.377	0.813	1.171
186	8	2	1	2	200	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.446	0.354	0.894	1.331
187	8	2	1	3	20	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.684	0.698	0.945	1.258
188	8	2	1	3	100	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.470	0.390	0.872	1.269
189	8	2	1	3	200	1	10	1	38	6	151	136	0	0	0	0	0	4	15	0.447	0.355	0.909	1.361
190	8	2	1	1	20	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.536	0.475	0.603	0.783
191	8	2	1	1	100	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.481	0.372	0.733	1.031
192	8	2	1	1	200	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.476	0.363	0.841	1.232
193	8	2	1	2	20	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.615	0.577	0.751	0.983
194	8	2	1	2	100	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.489	0.383	0.780	1.110
195	8	2	1	2	200	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.477	0.363	0.854	1.256
196	8	2	1	3	20	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.695	0.679	0.904	1.192
197	8	2	1	3	100	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.496	0.393	0.832	1.198
198	8	2	1	3	200	1	10	1	42	6	37	142	0	0	0	0	0	4	15	0.477	0.364	0.867	1.282
199	8	2	1	1	20	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.499	0.456	0.575	0.750
200	8	2	1	1	100	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.439	0.346	0.663	0.934
201	8	2	1	1	200	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.432	0.334	0.755	1.107
202	8	2	1	2	20	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.581	0.561	0.725	0.954
203	8	2	1	2	100	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.448	0.359	0.715	1.019
204	8	2	1	2	200	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.433	0.335	0.770	1.135
205	8	2	1	3	20	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.663	0.666	0.881	1.167
206	8	2	1	3	100	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.456	0.371	0.772	1.115
207	8	2	1	3	200	1	10	1	42	0	37	137	0	0	0	0	0	4	15	0.433	0.336	0.786	1.166
208	8	2	1	1	20	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.476	0.442	0.580	0.763
209	8	2	1	1	100	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.420	0.338	0.707	1.008
210	8	2	1	1	200	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.415	0.328	0.816	1.210
211	8	2	1	2	20	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.555	0.543	0.727	0.963
212	8	2	1	2	100	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.428	0.348	0.754	1.087
213	8	2	1	2	200	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.415	0.329	0.828	1.233
214	8	2	1	3	20	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.635	0.645	0.880	1.172
215	8	2	1	3	100	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.435	0.359	0.807	1.175
216	8	2	1	3	200	1	10	1	42	6	142	132	0	0	0	0	0	4	15	0.416	0.330	0.842	1.259
217	8	2	1	1	20	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.496	0.407	0.682	0.938
218	8	2	1	1	100	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.439	0.299	0.824	1.210
219	8	2	1	1	200	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.433	0.287	0.945	1.433
220	8	2	1	2	20	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.581	0.517	0.842	1.156

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:25 05-14-76

	CANOPY PARAMETERS					ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	D PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	2	1	2	100	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.448	0.311	0.878	1.298
222	8	2	1	2	200	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.433	0.288	0.959	1.459
223	8	2	1	3	20	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.667	0.627	1.007	1.383
224	8	2	1	3	100	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.457	0.324	0.936	1.397
225	8	2	1	3	200	2	10	1	38	6	28	146	0	0	0	0	0	4	15	0.434	0.289	0.974	1.489
226	8	2	1	1	20	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.447	0.382	0.649	0.902
227	8	2	1	1	100	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.385	0.267	0.749	1.107
228	8	2	1	1	200	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.377	0.253	0.851	1.300
229	8	2	1	2	20	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.535	0.495	0.812	1.124
230	8	2	1	2	100	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.396	0.282	0.807	1.203
231	8	2	1	2	200	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.373	0.254	0.868	1.331
232	8	2	1	3	20	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.625	0.609	0.981	1.355
233	8	2	1	3	100	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.406	0.297	0.872	1.310
234	8	2	1	3	200	2	10	1	38	0	28	141	0	0	0	0	0	4	15	0.379	0.256	0.887	1.366
235	8	2	1	1	20	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.412	0.360	0.649	0.912
236	8	2	1	1	100	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.355	0.251	0.789	1.180
237	8	2	1	1	200	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.348	0.239	0.910	1.403
238	8	2	1	2	20	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.498	0.470	0.809	1.130
239	8	2	1	2	100	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.364	0.264	0.843	1.268
240	8	2	1	2	200	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.349	0.240	0.924	1.429
241	8	2	1	3	20	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.584	0.580	0.975	1.356
242	8	2	1	3	100	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.373	0.277	0.902	1.367
243	8	2	1	3	200	2	10	1	38	6	151	136	0	0	0	0	0	4	15	0.349	0.241	0.940	1.459
244	8	2	1	1	20	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.444	0.367	0.630	0.873
245	8	2	1	1	100	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.390	0.266	0.760	1.123
246	8	2	1	1	200	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.385	0.256	0.870	1.325
247	8	2	1	2	20	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.522	0.468	0.778	1.074
248	8	2	1	2	100	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.397	0.276	0.808	1.202
249	8	2	1	2	200	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.385	0.257	0.882	1.348
250	8	2	1	3	20	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.601	0.568	0.931	1.285
251	8	2	1	3	100	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.405	0.287	0.860	1.290
252	8	2	1	3	200	2	10	1	42	6	37	142	0	0	0	0	0	4	15	0.386	0.258	0.896	1.375
253	8	2	1	1	20	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.407	0.349	0.601	0.840
254	8	2	1	1	100	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.348	0.240	0.690	1.024
255	8	2	1	1	200	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.342	0.228	0.783	1.199
256	8	2	1	2	20	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.488	0.452	0.752	1.045
257	8	2	1	2	100	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.357	0.252	0.742	1.110
258	8	2	1	2	200	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.342	0.229	0.798	1.226
259	8	2	1	3	20	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.570	0.556	0.909	1.259
260	8	2	1	3	100	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.365	0.265	0.800	1.206
261	8	2	1	3	200	2	10	1	42	0	37	137	0	0	0	0	0	4	15	0.343	0.230	0.814	1.257
262	8	2	1	1	20	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.384	0.339	0.606	0.853
263	8	2	1	1	100	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.329	0.231	0.735	1.100
264	8	2	1	1	200	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.324	0.222	0.844	1.302

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASF	SPEC	SOIL	DENS	RREF	OPITD	OPIDD	SZUENN	VIZFEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	2	1	2	20	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.462	0.434	0.754	1.055
266	8	2	1	2	100	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.336	0.242	0.782	1.179
267	8	2	1	2	200	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.324	0.222	0.856	1.325
268	8	2	1	3	20	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.541	0.535	0.907	1.265
269	8	2	1	3	100	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.344	0.252	0.835	1.267
270	8	2	1	3	200	2	10	1	42	6	142	132	0	0	0	0	0	4	15	0.325	0.223	0.870	1.352
271	8	2	1	1	20	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.576	0.510	0.664	0.874
272	8	2	1	1	100	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.519	0.400	0.806	1.144
273	8	2	1	1	200	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.513	0.389	0.926	1.367
274	8	2	1	2	20	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.663	0.621	0.824	1.090
275	8	2	1	2	100	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.528	0.413	0.859	1.232
276	8	2	1	2	200	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.513	0.390	0.940	1.393
277	8	2	1	3	20	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.750	0.732	0.989	1.316
278	8	2	1	3	100	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.537	0.426	0.918	1.330
279	8	2	1	3	200	3	10	1	38	6	28	146	0	0	0	0	0	4	15	0.514	0.391	0.956	1.423
280	8	2	1	1	20	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.527	0.485	0.631	0.838
281	8	2	1	1	100	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.465	0.368	0.731	1.042
282	8	2	1	1	200	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.457	0.354	0.833	1.234
283	8	2	1	2	20	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.617	0.599	0.795	1.059
284	8	2	1	2	100	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.475	0.383	0.789	1.138
285	8	2	1	2	200	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.458	0.355	0.850	1.266
286	8	2	1	3	20	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.707	0.714	0.963	1.289
287	8	2	1	3	100	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.486	0.399	0.853	1.245
288	8	2	1	3	200	3	10	1	38	0	28	141	0	0	0	0	0	4	15	0.459	0.357	0.869	1.301
289	8	2	1	1	20	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.493	0.463	0.632	0.848
290	8	2	1	1	100	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.435	0.353	0.771	1.115
291	8	2	1	1	200	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.428	0.341	0.891	1.337
292	8	2	1	2	20	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.579	0.574	0.791	1.065
293	8	2	1	2	100	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.444	0.365	0.825	1.203
294	8	2	1	2	200	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.429	0.342	0.905	1.364
295	8	2	1	3	20	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.667	0.685	0.957	1.291
296	8	2	1	3	100	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.453	0.379	0.883	1.301
297	8	2	1	3	200	3	10	1	38	6	151	136	0	0	0	0	0	4	15	0.430	0.343	0.921	1.393
298	8	2	1	1	20	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.520	0.464	0.614	0.813
299	8	2	1	1	100	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.465	0.361	0.743	1.061
300	8	2	1	1	200	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.460	0.352	0.852	1.263
301	8	2	1	2	20	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.599	0.565	0.761	1.013
302	8	2	1	2	100	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.472	0.372	0.791	1.140
303	8	2	1	2	200	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.460	0.352	0.864	1.286
304	8	2	1	3	20	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.678	0.667	0.914	1.223
305	8	2	1	3	100	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.480	0.382	0.843	1.228
306	8	2	1	3	200	3	10	1	42	6	37	142	0	0	0	0	0	4	15	0.461	0.353	0.878	1.313
307	8	2	1	1	20	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.482	0.445	0.585	0.780
308	8	2	1	1	100	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.423	0.335	0.673	0.964

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUFNN	VIZFEWN	ARZEILM	SCANTG	%LILU	%VIEW	%TCVR	%GCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
309	8	2	1	1	200	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.416	0.323	0.766	1.137
310	8	2	1	2	20	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.564	0.550	0.736	0.984
311	8	2	1	2	100	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.431	0.347	0.725	1.049
312	8	2	1	2	200	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.417	0.324	0.780	1.165
313	8	2	1	3	20	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.647	0.655	0.892	1.198
314	8	2	1	3	100	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.440	0.360	0.783	1.145
315	8	2	1	3	200	3	10	1	42	0	37	137	0	0	0	0	0	4	15	0.417	0.325	0.797	1.196
316	8	2	1	1	20	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.459	0.431	0.590	0.793
317	8	2	1	1	100	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.404	0.327	0.718	1.039
318	8	2	1	1	200	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.399	0.317	0.826	1.240
319	8	2	1	2	20	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.538	0.532	0.738	0.994
320	8	2	1	2	100	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.411	0.337	0.765	1.118
321	8	2	1	2	200	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.399	0.318	0.839	1.264
322	8	2	1	3	20	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.618	0.634	0.891	1.203
323	8	2	1	3	100	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.419	0.348	0.817	1.206
324	8	2	1	3	200	3	10	1	42	6	142	132	0	0	0	0	0	4	15	0.400	0.318	0.852	1.290
325	8	2	1	1	20	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.711	0.608	0.683	0.850
326	8	2	1	1	100	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.675	0.535	0.778	1.041
327	8	2	1	1	200	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.672	0.529	0.858	1.195
328	8	2	1	2	20	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.762	0.679	0.791	1.005
329	8	2	1	2	100	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.680	0.542	0.813	1.101
330	8	2	1	2	200	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.672	0.529	0.867	1.213
331	8	2	1	3	20	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.813	0.751	0.904	1.167
332	8	2	1	3	100	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.684	0.549	0.851	1.169
333	8	2	1	3	200	1	4	1	38	6	28	146	0	0	0	0	0	4	15	0.672	0.530	0.877	1.233
334	8	2	1	1	20	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.632	0.563	0.638	0.807
335	8	2	1	1	100	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.592	0.485	0.703	0.947
336	8	2	1	1	200	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.588	0.477	0.771	1.080
337	8	2	1	2	20	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.685	0.637	0.749	0.965
338	8	2	1	2	100	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.598	0.493	0.741	1.013
339	8	2	1	2	200	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.589	0.478	0.782	1.101
340	8	2	1	3	20	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.738	0.710	0.864	1.129
341	8	2	1	3	100	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.603	0.502	0.783	1.086
342	8	2	1	3	200	1	4	1	38	0	28	141	0	0	0	0	0	4	15	0.58[illegible]	0.478	0.794	1.125
343	8	2	1	1	20	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.57[illegible]	0.529	0.626	0.804
344	8	2	1	1	100	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.541	0.456	0.720	0.993
345	8	2	1	1	200	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.537	0.450	0.800	1.147
346	8	2	1	2	20	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.628	0.601	0.734	0.959
347	8	2	1	2	100	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.545	0.465	0.755	1.054
348	8	2	1	2	200	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.537	0.450	0.809	1.165
349	8	2	1	3	20	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.679	0.672	0.847	1.121
350	8	2	1	3	100	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.549	0.470	0.793	1.121
351	8	2	1	3	200	1	4	1	38	6	151	136	0	0	0	0	0	4	15	0.538	0.451	0.819	1.185
352	8	2	1	1	20	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.630	0.548	0.625	0.786

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN YG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	M UN TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	8	2	1	1	100	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.596	0.479	0.713	0.962
354	8	2	1	1	200	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.593	0.474	0.786	1.103
355	8	2	1	2	20	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.677	0.613	0.725	0.930
356	8	2	1	2	100	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.600	0.485	0.744	1.017
357	8	2	1	2	200	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.594	0.475	0.794	1.119
358	8	2	1	3	20	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.724	0.679	0.830	1.080
359	8	2	1	3	100	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.604	0.492	0.778	1.078
360	8	2	1	3	200	1	4	1	42	6	37	142	0	0	0	0	0	4	15	0.594	0.475	0.803	1.137
361	8	2	1	1	20	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.572	0.514	0.589	0.749
362	8	2	1	1	100	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.535	0.441	0.647	0.877
363	8	2	1	1	200	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.531	0.435	0.709	0.997
364	8	2	1	2	20	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.621	0.582	0.692	0.895
365	8	2	1	2	100	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.539	0.448	0.681	0.936
366	8	2	1	2	200	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.531	0.435	0.719	1.016
367	8	2	1	3	20	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.659	0.650	0.799	1.049
368	8	2	1	3	100	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.543	0.455	0.719	1.003
369	8	2	1	3	200	1	4	1	42	0	37	137	0	0	0	0	0	4	15	0.532	0.436	0.730	1.038
370	8	2	1	1	20	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.536	0.492	0.584	0.753
371	8	2	1	1	100	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.501	0.424	0.671	0.927
372	8	2	1	1	200	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.499	0.418	0.744	1.068
373	8	2	1	2	20	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.582	0.558	0.685	0.896
374	8	2	1	2	100	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.505	0.430	0.703	0.982
375	8	2	1	2	200	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.499	0.419	0.752	1.084
376	8	2	1	3	20	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.630	0.624	0.789	1.046
377	8	2	1	3	100	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.509	0.436	0.737	1.043
378	8	2	1	3	200	1	4	1	42	6	142	132	0	0	0	0	0	4	15	0.499	0.419	0.761	1.102
379	8	2	1	1	20	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.574	0.437	0.729	1.009
380	8	2	1	1	100	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.538	0.366	0.826	1.201
381	8	2	1	1	200	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.535	0.360	0.906	1.356
382	8	2	1	2	20	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.624	0.508	0.838	1.165
383	8	2	1	2	100	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.543	0.373	0.861	1.262
384	8	2	1	2	200	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.535	0.360	0.916	1.374
385	8	2	1	3	20	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.674	0.578	0.951	1.328
386	8	2	1	3	100	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.547	0.380	0.899	1.330
387	8	2	1	3	200	2	4	1	38	6	28	146	0	0	0	0	0	4	15	0.536	0.361	0.926	1.395
388	8	2	1	1	20	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.495	0.393	0.685	0.964
389	8	2	1	1	100	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.456	0.316	0.750	1.105
390	8	2	1	1	200	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.452	0.309	0.819	1.239
391	8	2	1	2	20	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.547	0.465	0.796	1.125
392	8	2	1	2	100	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.461	0.325	0.788	1.172
393	8	2	1	2	200	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.452	0.309	0.830	1.261
394	8	2	1	3	20	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.599	0.538	0.912	1.290
395	8	2	1	3	100	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.466	0.333	0.831	1.246
396	8	2	1	3	200	2	4	1	38	0	28	141	0	0	0	0	0	4	15	0.453	0.310	0.842	1.285

***** OUTPUT CALCULATIONS FROM ERTH MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMO-SPHERIC CHARACT-ERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	D PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	2	1	1	20	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.439	0.359	0.672	0.962
398	8	2	1	1	100	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.404	0.287	0.768	1.153
399	8	2	1	1	200	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.400	0.281	0.848	1.308
400	8	2	1	2	20	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.489	0.429	0.781	1.118
401	8	2	1	2	100	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.408	0.294	0.803	1.214
402	8	2	1	2	200	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.401	0.281	0.858	1.326
403	8	2	1	3	20	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.540	0.499	0.894	1.281
404	8	2	1	3	100	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.412	0.301	0.841	1.282
405	8	2	1	3	200	2	4	1	38	6	151	136	0	0	0	0	0	4	15	0.401	0.282	0.868	1.346
406	8	2	1	1	20	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.501	0.388	0.669	0.935
407	8	2	1	1	100	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.468	0.321	0.757	1.112
408	8	2	1	1	[illegible]	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.465	0.316	0.831	1.254
409	8	2	1	2	20	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.548	0.453	0.770	1.080
410	8	2	1	2	100	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.472	0.327	0.789	1.168
411	8	2	1	2	200	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.466	0.316	0.839	1.270
412	8	2	1	3	20	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.594	0.517	0.874	1.231
413	8	2	1	3	100	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.475	0.333	0.823	1.229
414	8	2	1	3	200	2	4	1	42	6	37	142	0	0	0	0	0	4	15	0.466	0.317	0.848	1.289
415	8	2	1	1	20	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.444	0.355	0.632	0.896
416	8	2	1	1	100	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.407	0.283	0.691	1.025
417	8	2	1	1	200	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.404	0.277	0.754	1.147
418	8	2	1	2	20	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.492	0.422	0.736	1.044
419	8	2	1	2	100	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.411	0.290	0.726	1.085
420	8	2	1	2	200	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.404	0.277	0.764	1.166
421	8	2	1	3	20	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.540	0.489	0.843	1.199
422	8	2	1	3	100	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.416	0.297	0.764	1.152
423	8	2	1	3	200	2	4	1	42	0	37	137	0	0	0	0	0	4	15	0.404	0.278	0.775	1.188
424	8	2	1	1	20	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.407	0.333	0.628	0.900
425	8	2	1	1	100	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.373	0.265	0.716	1.077
426	8	2	1	1	200	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.371	0.260	0.790	1.218
427	8	2	1	2	20	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.453	0.397	0.729	1.045
428	8	2	1	2	100	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.377	0.271	0.748	1.132
429	8	2	1	2	200	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.371	0.260	0.798	1.235
430	8	2	1	3	20	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.500	0.462	0.834	1.197
431	8	2	1	3	100	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.381	0.277	0.782	1.193
432	8	2	1	3	200	2	4	1	42	6	142	132	0	0	0	0	0	4	15	0.371	0.261	0.807	1.253
433	8	2	1	1	20	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.686	0.590	0.701	0.903
434	8	2	1	1	100	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.651	0.518	0.796	1.094
435	8	2	1	1	200	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.647	0.511	0.876	1.249
436	8	2	1	2	20	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.737	0.661	0.809	1.058
437	8	2	1	2	100	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.655	0.525	0.831	1.155
438	8	2	1	2	200	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.648	0.512	0.885	1.267
439	8	2	1	3	20	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.788	0.733	0.922	1.220
440	8	2	1	3	100	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.659	0.532	0.869	1.223

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VTZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	2	1	3	200	3	4	1	38	6	28	146	0	0	0	0	0	4	15	0.648	0.512	0.895	1.287
442	8	2	1	1	20	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.607	0.545	0.656	0.859
443	8	2	1	1	100	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.568	0.468	0.721	1.000
444	8	2	1	1	200	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.564	0.460	0.789	1.133
445	8	2	1	2	20	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.660	0.619	0.767	1.017
446	8	2	1	2	100	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.573	0.476	0.759	1.066
447	8	2	1	2	200	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.564	0.460	0.800	1.154
448	8	2	1	3	20	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.713	0.693	0.882	1.183
449	8	2	1	3	100	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.578	0.484	0.801	1.139
450	8	2	1	3	200	3	4	1	38	0	28	141	0	0	0	0	0	4	15	0.564	0.461	0.812	1.178
451	8	2	1	1	20	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.552	0.512	0.644	0.857
452	8	2	1	1	100	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.516	0.439	0.738	1.046
453	8	2	1	1	200	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.513	0.432	0.818	1.201
454	8	2	1	2	20	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.603	0.583	0.752	1.012
455	8	2	1	2	100	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.520	0.446	0.773	1.107
456	8	2	1	2	200	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.513	0.433	0.827	1.218
457	8	2	1	3	20	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.654	0.654	0.865	1.174
458	8	2	1	3	100	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.525	0.453	0.811	1.175
459	8	2	1	3	200	3	4	1	38	6	151	136	0	0	0	0	0	4	15	0.513	0.433	0.837	1.239
460	8	2	1	1	20	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.607	0.531	0.641	0.836
461	8	2	1	1	100	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.573	0.463	0.730	1.012
462	8	2	1	1	200	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.570	0.458	0.803	1.153
463	8	2	1	2	20	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.654	0.597	0.742	0.980
464	8	2	1	2	100	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.577	0.469	0.761	1.067
465	8	2	1	2	200	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.571	0.458	0.811	1.169
466	8	2	1	3	20	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.701	0.662	0.847	1.130
467	8	2	1	3	100	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.581	0.475	0.795	1.128
468	8	2	1	3	200	3	4	1	42	6	37	142	0	0	0	0	0	4	15	0.571	0.459	0.820	1.187
469	8	2	1	1	20	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.549	0.498	0.606	0.798
470	8	2	1	1	100	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.512	0.425	0.664	0.926
471	8	2	1	1	200	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.508	0.418	0.726	1.047
472	8	2	1	2	20	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.597	0.566	0.709	0.945
473	8	2	1	2	100	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.516	0.432	0.698	0.986
474	8	2	1	2	200	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.508	0.419	0.736	1.066
475	8	2	1	3	20	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.646	0.634	0.815	1.098
476	8	2	1	3	100	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.520	0.439	0.736	1.052
477	8	2	1	3	200	3	4	1	42	0	37	137	0	0	0	0	0	4	15	0.509	0.419	0.746	1.087
478	8	2	1	1	20	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.512	0.476	0.601	0.802
479	8	2	1	1	100	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.478	0.407	0.688	0.977
480	8	2	1	1	200	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.476	0.402	0.761	1.118
481	8	2	1	2	20	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.559	0.541	0.702	0.946
482	8	2	1	2	100	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.482	0.413	0.720	1.032
483	8	2	1	2	200	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.476	0.402	0.769	1.134
484	8	2	1	3	20	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.606	0.607	0.606	1.096

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:47:23 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	2	1	3	100	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.486	0.419	0.754	1.093
486	8	2	1	3	200	3	4	1	42	6	142	132	0	0	0	0	0	4	15	0.476	0.403	0.778	1.152

APPENDIX E

LANDSAT INBAND RADIANCES

PRE-HEAD WHEAT CANOPY (NO. 3)

Pages 105-120

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) ***** 13:48:17 05-14-76

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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**************************************************************************
*                                                                        *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL   *
*                                                                        *
*                  LANDSAT            INBAND RADIANCES                   *
*                                                                        *
**************************************************************************
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** PRE-HEADING STAGE, MID MAY ***

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

CANOPY PARAMETERS

BASE CANOPY ('BASE')

1 WHEAT, EMERGENT MID NOV
2 WHEAT, JOINTING MID APR
3 WHEAT, PRE-HEAD MID MAY
4 WHEAT, POST-HEAD END MAY
5 WHEAT, SENESCING MID JUN
6 WHEAT, RIPE END JUN
7 WHEAT, HARVESTED EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

ATMOSPHERIC PARAMETERS

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR STANDARD ATMOSPHERES, LABELED BY HORIZONTAL VISUAL RANGE (KM):
4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT APPLICABLE IN ALL CASES

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ FI I.M	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	3	1	1	33	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.566	0.450	0.855	1.208
2	8	3	1	1	100	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.541	0.402	1.079	1.691
3	8	3	1	1	200	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.539	0.400	1.155	1.892
4	8	3	1	2	33	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.609	0.504	0.970	1.382
5	8	3	1	2	100	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.542	0.404	1.098	1.732
6	8	3	1	2	200	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.539	0.400	1.156	1.896
7	8	3	1	3	33	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.652	0.558	1.093	1.571
8	8	3	1	3	100	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.544	0.406	1.119	1.777
9	8	3	1	3	200	1	23	1	31	6	18	154	0	0	0	0	0	5	15	0.539	0.400	1.158	1.900
10	8	3	1	1	33	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.515	0.425	0.815	1.160
11	8	3	1	1	100	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.486	0.372	1.025	1.618
12	8	3	1	1	200	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.485	0.369	1.104	1.826
13	8	3	1	2	33	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.561	0.483	0.936	1.341
14	8	3	1	2	100	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.488	0.375	1.047	1.663
15	8	3	1	2	200	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.485	0.370	1.105	1.831
16	8	3	1	3	33	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.607	0.541	1.064	1.537
17	8	3	1	3	100	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.491	0.378	1.070	1.714
18	8	3	1	3	200	1	23	1	31	0	18	148	0	0	0	0	0	5	15	0.485	0.370	1.107	1.836
19	8	3	1	1	33	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.484	0.406	0.826	1.187
20	8	3	1	1	100	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.458	0.357	1.051	1.671
21	8	3	1	1	200	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.457	0.355	1.126	1.872
22	8	3	1	2	33	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.527	0.460	0.941	1.361
23	8	3	1	2	100	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.469	0.360	1.069	1.711
24	8	3	1	2	200	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.457	0.355	1.127	1.876
25	8	3	1	3	33	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.570	0.513	1.065	1.551
26	8	3	1	3	100	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.461	0.362	1.090	1.757
27	8	3	1	3	200	1	23	1	31	6	161	143	0	0	0	0	0	5	15	0.457	0.355	1.129	1.880
28	8	3	1	1	33	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.522	0.420	0.815	1.158
29	8	3	1	1	100	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.497	0.374	1.028	1.618
30	8	3	1	1	200	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.496	0.373	1.098	1.806
31	8	3	1	2	33	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.561	0.469	0.923	1.322
32	8	3	1	2	100	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.499	0.376	1.045	1.656
33	8	3	1	2	200	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.496	0.373	1.100	1.810
34	8	3	1	3	33	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.601	0.519	1.039	1.501
35	8	3	1	3	100	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.500	0.378	1.065	1.699
36	8	3	1	3	200	1	23	1	34	6	31	150	0	0	0	0	0	5	15	0.496	0.373	1.101	1.814
37	8	3	1	1	33	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.484	0.400	0.778	1.111
38	8	3	1	1	100	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.457	0.350	0.977	1.547
39	8	3	1	1	200	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.456	0.348	1.050	1.741
40	8	3	1	2	33	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.527	0.453	0.891	1.282
41	8	3	1	2	100	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.459	0.353	0.997	1.589
42	8	3	1	2	200	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.456	0.348	1.051	1.745
43	8	3	1	3	33	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.570	0.507	1.013	1.468
44	8	3	1	3	100	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.461	0.355	1.018	1.636

ORIGINAL PAGE IS OF POOR QUALITY

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

CASE	ID	CANOPY PARAMETERS BASE	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS BREF	OPTD	OPDD	VIEW GEOMETRY SZUENN	VIZEEWN	ARZEILM	SCAANTG	CANOPY CHARACTERISTICS IXLLU	VXIFW	TXCVR	GXCVR	TIME AND PLACE LAT	MONTH	DAY	INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS) 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	3	1	3	200	1	23	1	34	0	31	145	0	0	0	0	0	5	15	0.456	0.348	1.053	1.750
46	8	3	1	1	33	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.458	0.384	0.791	1.140
47	8	3	1	1	100	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.433	0.338	1.004	1.601
48	8	3	1	1	200	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.432	0.337	1.075	1.789
49	8	3	1	2	33	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.497	0.433	0.899	1.305
50	8	3	1	2	100	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.435	0.340	1.022	1.639
51	8	3	1	2	200	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.432	0.337	1.076	1.792
52	8	3	1	3	33	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.537	0.483	1.016	1.484
53	8	3	1	3	100	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.436	0.342	1.041	1.681
54	8	3	1	3	200	1	23	1	34	6	148	140	0	0	0	0	0	5	15	0.432	0.337	1.077	1.796
55	8	3	1	1	33	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.492	0.366	0.876	1.279
56	8	3	1	1	100	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.466	0.317	1.102	1.764
57	8	3	1	1	200	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.465	0.315	1.178	1.966
58	8	3	1	2	33	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.534	0.419	0.992	1.454
59	8	3	1	2	100	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.468	0.319	1.121	1.805
60	8	3	1	2	200	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.465	0.315	1.179	1.970
61	8	3	1	3	33	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.577	0.472	1.115	1.644
62	8	3	1	3	100	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.470	0.322	1.142	1.851
63	8	3	1	3	200	2	23	1	31	6	18	154	0	0	0	0	0	5	15	0.465	0.315	1.180	1.974
64	8	3	1	1	33	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.441	0.341	0.836	1.230
65	8	3	1	1	100	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.412	0.288	1.047	1.691
66	8	3	1	1	200	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.411	0.285	1.126	1.899
67	8	3	1	2	33	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.486	0.398	0.957	1.412
68	8	3	1	2	100	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.415	0.291	1.069	1.736
69	8	3	1	2	200	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.411	0.285	1.128	1.904
70	8	3	1	3	33	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.533	0.456	1.086	1.609
71	8	3	1	3	100	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.417	0.294	1.093	1.787
72	8	3	1	3	200	2	23	1	31	0	18	148	0	0	0	0	0	5	15	0.411	0.286	1.129	1.909
73	8	3	1	1	33	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.409	0.321	0.848	1.258
74	8	3	1	1	100	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.384	0.273	1.073	1.744
75	8	3	1	1	200	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.383	0.271	1.149	1.945
76	8	3	1	2	33	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.452	0.374	0.963	1.433
77	8	3	1	2	100	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.385	0.275	1.092	1.784
78	8	3	1	2	200	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.383	0.271	1.150	1.949
79	8	3	1	3	33	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.495	0.428	1.087	1.623
80	8	3	1	3	100	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.387	0.277	1.113	1.830
81	8	3	1	3	200	2	23	1	31	6	161	143	0	0	0	0	0	5	15	0.383	0.271	1.151	1.953
82	8	3	1	1	33	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.450	0.338	0.835	1.226
83	8	3	1	1	100	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.426	0.292	1.050	1.689
84	8	3	1	1	200	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.425	0.291	1.120	1.877
85	8	3	1	2	33	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.489	0.387	0.944	1.392
86	8	3	1	2	100	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.427	0.294	1.067	1.727
87	8	3	1	2	200	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.425	0.291	1.121	1.881
88	8	3	1	3	33	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.529	0.436	1.061	1.571

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	D PI TO	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	3	1	3	100	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.428	0.296	1.086	1.769
90	8	3	1	3	200	2	23	1	34	6	31	150	0	0	0	0	0	5	15	0.425	0.291	1.123	1.885
91	8	3	1	1	33	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.413	0.319	0.798	1.179
92	8	3	1	1	100	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.386	0.269	0.998	1.617
93	8	3	1	1	200	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.385	0.267	1.071	1.811
94	8	3	1	2	33	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.455	0.371	0.912	1.350
95	8	3	1	2	100	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.388	0.272	1.018	1.659
96	8	3	1	2	200	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.385	0.267	1.073	1.816
97	8	3	1	3	33	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.498	0.425	1.034	1.537
98	8	3	1	3	100	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.389	0.274	1.040	1.706
99	8	3	1	3	200	2	23	1	34	0	31	145	0	0	0	0	0	5	15	0.385	0.267	1.074	1.820
100	8	3	1	1	33	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.386	0.302	0.811	1.208
101	8	3	1	1	100	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.362	0.257	1.026	1.671
102	8	3	1	1	200	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.361	0.255	1.097	1.860
103	8	3	1	2	33	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.425	0.351	[illegible].920	1.374
104	8	3	1	2	100	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.363	0.259	[illegible]43	1.709
105	8	3	1	2	200	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.361	0.255	1.098	1.863
106	8	3	1	3	33	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.465	0.400	1.037	1.553
107	8	3	1	3	100	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.365	0.261	1.063	1.752
108	8	3	1	3	200	2	23	1	34	6	148	140	0	0	0	0	0	5	15	0.361	0.255	1.099	1.867
109	8	3	1	1	33	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.553	0.442	0.864	1.231
110	8	3	1	1	100	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.527	0.393	1.088	1.715
111	8	3	1	1	200	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.526	0.391	1.164	1.916
112	8	3	1	2	33	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.596	0.495	0.979	1.405
113	8	3	1	2	100	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.529	0.395	1.107	1.755
114	8	3	1	2	200	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.526	0.391	1.165	1.920
115	8	3	1	3	33	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.639	0.549	1.102	1.595
116	8	3	1	3	100	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.531	0.398	1.128	1.801
117	8	3	1	3	200	3	23	1	31	6	18	154	0	0	0	0	0	5	15	0.526	0.391	1.166	1.924
118	8	3	1	1	33	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.502	0.416	0.823	1.183
119	8	3	1	1	100	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.473	0.363	1.034	1.642
120	8	3	1	1	200	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.472	0.361	1.112	1.850
121	8	3	1	2	33	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.548	0.474	0.944	1.364
122	8	3	1	2	100	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.475	0.366	1.055	1.687
123	8	3	1	2	200	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.472	0.361	1.114	1.855
124	8	3	1	3	33	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.594	0.532	1.073	1.561
125	8	3	1	3	100	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.477	0.369	1.079	1.738
126	8	3	1	3	200	3	23	1	31	0	18	148	0	0	0	0	0	5	15	0.472	0.361	1.115	1.860
127	8	3	1	1	33	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.471	0.397	0.835	1.210
128	8	3	1	1	100	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.445	0.348	1.059	1.695
129	8	3	1	1	200	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.444	0.347	1.135	1.896
130	8	3	1	2	33	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.513	0.451	0.950	1.385
131	8	3	1	2	100	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.447	0.351	1.078	1.735
132	8	3	1	2	200	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.444	0.347	1.136	1.900

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITO	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	3	1	3	33	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.557	0.505	1.073	1.574
134	8	3	1	3	100	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.448	0.353	1.099	1.781
135	8	3	1	3	200	3	23	1	31	6	161	143	0	0	0	0	0	5	15	0.444	0.347	1.137	1.904
136	8	3	1	1	33	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.509	0.411	0.823	1.180
137	8	3	1	1	100	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.485	0.365	1.036	1.641
138	8	3	1	1	200	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.484	0.364	1.107	1.829
139	8	3	1	2	33	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.548	0.460	0.932	1.345
140	8	3	1	2	100	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.486	0.367	1.054	1.679
141	8	3	1	2	200	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.484	0.364	1.108	1.833
142	8	3	1	3	33	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.588	0.510	1.048	1.524
143	8	3	1	3	100	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.487	0.369	1.073	1.722
144	8	3	1	3	200	3	23	1	34	6	31	150	0	0	0	0	0	5	15	0.484	0.364	1.109	1.837
145	8	3	1	1	33	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.471	0.392	0.786	1.133
146	8	3	1	1	100	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.444	0.342	0.985	1.570
147	8	3	1	1	200	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.443	0.340	1.058	1.764
148	8	3	1	2	33	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.514	0.445	0.899	1.304
149	8	3	1	2	100	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.446	0.344	1.005	1.611
150	8	3	1	2	200	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.443	0.340	1.060	1.768
151	8	3	1	3	33	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.557	0.498	1.021	1.491
152	8	3	1	3	100	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.448	0.347	1.027	1.658
153	8	3	1	3	200	3	23	1	34	0	31	145	0	0	0	0	0	5	15	0.443	0.340	1.061	1.773
154	8	3	1	1	33	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.445	0.375	0.799	1.162
155	8	3	1	1	100	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.421	0.330	1.013	1.624
156	8	3	1	1	200	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.420	0.328	1.083	1.812
157	8	3	1	2	33	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.484	0.425	0.908	1.327
158	8	3	1	2	100	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.422	0.332	1.030	1.662
159	8	3	1	2	200	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.420	0.328	1.084	1.815
160	8	3	1	3	33	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.524	0.474	1.024	1.507
161	8	3	1	3	100	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.423	0.334	1.049	1.704
162	8	3	1	3	200	3	23	1	34	6	148	140	0	0	0	0	0	5	15	0.420	0.328	1.085	1.819
163	8	3	1	1	33	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.675	0.525	0.852	1.174
164	8	3	1	1	100	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.656	0.487	1.042	1.593
165	8	3	1	1	200	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.655	0.486	1.104	1.764
166	8	3	1	2	33	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.706	0.566	0.948	1.324
167	8	3	1	2	100	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.657	0.489	1.057	1.627
168	8	3	1	2	200	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.655	0.486	1.105	1.767
169	8	3	1	3	33	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.737	0.608	1.051	1.487
170	8	3	1	3	100	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.658	0.490	1.074	1.666
171	8	3	1	3	200	1	10	1	31	6	18	154	0	0	0	0	0	5	15	0.655	0.486	1.106	1.770
172	8	3	1	1	33	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.591	0.483	0.803	1.121
173	8	3	1	1	100	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.570	0.441	0.980	1.518
174	8	3	1	1	200	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.569	0.440	1.045	1.695
175	8	3	1	2	33	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.624	0.528	0.904	1.277
176	8	3	1	2	100	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.571	0.443	0.998	1.556

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	3	1	2	200	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.569	0.440	1.046	1.699
178	8	3	1	3	33	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.658	0.573	1.011	1.447
179	8	3	1	3	100	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.572	0.446	1.017	1.599
180	8	3	1	3	200	1	10	1	31	0	18	148	0	0	0	0	0	5	15	0.569	0.440	1.048	1.703
181	8	3	1	1	33	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.543	0.456	0.807	1.143
182	8	3	1	1	100	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.524	0.417	0.996	1.561
183	8	3	1	1	200	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.523	0.416	1.059	1.733
184	8	3	1	2	33	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.574	0.497	0.903	1.293
185	8	3	1	2	100	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.525	0.419	1.012	1.596
186	8	3	1	2	200	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.523	0.416	1.060	1.736
187	8	3	1	3	33	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.606	0.539	1.005	1.456
188	8	3	1	3	100	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.526	0.421	1.029	1.635
189	8	3	1	3	200	1	10	1	31	6	161	143	0	0	0	0	0	5	15	0.523	0.416	1.061	1.739
190	8	3	1	1	33	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.610	0.484	0.808	1.123
191	8	3	1	1	100	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.591	0.449	0.988	1.522
192	8	3	1	1	200	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.591	0.448	1.047	1.682
193	8	3	1	2	33	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.638	0.523	0.898	1.265
194	8	3	1	2	100	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.592	0.450	1.002	1.555
195	8	3	1	2	200	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.591	0.448	1.047	1.685
196	8	3	1	3	33	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.667	0.562	0.995	1.420
197	8	3	1	3	100	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.593	0.452	1.018	1.591
198	8	3	1	3	200	1	10	1	34	6	31	150	0	0	0	0	0	5	15	0.591	0.448	1.048	1.689
199	8	3	1	1	33	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.552	0.454	0.765	1.073
200	8	3	1	1	100	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.531	0.414	0.933	1.451
201	8	3	1	1	200	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.530	0.413	0.994	1.616
202	8	3	1	2	33	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.583	0.495	0.860	1.221
203	8	3	1	2	100	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.532	0.416	0.949	1.486
204	8	3	1	2	200	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.530	0.413	0.995	1.620
205	8	3	1	3	33	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.614	0.537	0.961	1.382
206	8	3	1	3	100	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.534	0.418	0.967	1.526
207	8	3	1	3	200	1	10	1	34	0	31	145	0	0	0	0	0	5	15	0.530	0.413	0.996	1.624
208	8	3	1	1	33	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.511	0.430	0.771	1.097
209	8	3	1	1	100	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.492	0.394	0.952	1.496
210	8	3	1	1	200	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.492	0.394	1.010	1.656
211	8	3	1	2	33	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.539	0.469	0.862	1.239
212	8	3	1	2	100	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.493	0.396	0.966	1.528
213	8	3	1	2	200	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.492	0.394	1.011	1.659
214	8	3	1	3	33	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.568	0.507	0.959	1.393
215	8	3	1	3	100	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.494	0.397	0.982	1.564
216	8	3	1	3	200	1	10	1	34	6	148	140	0	0	0	0	0	5	15	0.492	0.394	1.012	1.662
217	8	3	1	1	33	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.569	0.402	0.884	1.280
218	8	3	1	1	100	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.550	0.364	1.074	1.701
219	8	3	1	1	200	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.549	0.363	1.137	1.872
220	8	3	1	2	33	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.599	0.443	0.980	1.431

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I XL L U	V XI E W	T XC V R	G XC V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	3	1	2	100	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.551	0.366	1.090	1.735
222	8	3	1	2	200	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.549	0.363	1.138	1.876
223	8	3	1	3	33	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.631	0.484	1.083	1.595
224	8	3	1	3	100	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.552	0.368	1.107	1.774
225	8	3	1	3	200	2	10	1	31	6	18	154	0	0	0	0	0	5	15	0.549	0.363	1.139	1.879
226	8	3	1	1	33	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.485	0.360	0.835	1.226
227	8	3	1	1	100	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.464	0.319	1.013	1.624
228	8	3	1	1	200	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.463	0.317	1.078	1.802
229	8	3	1	2	33	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.518	0.405	0.935	1.383
230	8	3	1	2	100	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.465	0.321	1.030	1.663
231	8	3	1	2	200	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.463	0.317	1.079	1.806
232	8	3	1	3	33	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.552	0.449	1.043	1.553
233	8	3	1	3	100	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.467	0.323	1.050	1.706
234	8	3	1	3	200	2	10	1	31	0	18	148	0	0	0	0	0	5	15	0.463	0.317	1.080	1.810
235	8	3	1	1	33	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.437	0.332	0.83[illegible]	1.248
236	8	3	1	1	100	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.418	0.295	1.029	1.669
237	8	3	1	1	200	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.417	0.293	1.092	1.841
238	8	3	1	[illegible]	33	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.468	0.373	0.935	1.399
239	8	3	1	2	100	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.419	0.296	1.045	1.704
240	8	3	1	2	200	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.417	0.293	1.093	1.844
241	8	3	1	3	33	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.499	0.415	1.038	1.563
242	8	3	1	3	100	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.420	0.298	1.062	1.742
243	8	3	1	3	200	2	10	1	31	6	161	143	0	0	0	0	0	5	15	0.417	0.293	1.094	1.848
244	8	3	1	1	33	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.507	0.365	0.838	1.225
245	8	3	1	1	100	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.489	0.330	1.019	1.626
246	8	3	1	1	200	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.489	0.329	1.078	1.787
247	8	3	1	2	33	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.536	0.403	0.929	1.368
248	8	3	1	2	100	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.490	0.332	1.034	1.659
249	8	3	1	2	200	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.489	0.329	1.079	1.790
250	8	3	1	3	33	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.564	0.442	1.026	1.523
251	8	3	1	3	100	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.491	0.333	1.050	1.695
252	8	3	1	3	200	2	10	1	34	6	31	150	0	0	0	0	0	5	15	0.489	0.329	1.080	1.794
253	8	3	1	1	33	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.450	0.335	0.795	1.174
254	8	3	1	1	100	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.430	0.296	0.964	1.554
255	8	3	1	1	200	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.429	0.295	1.025	1.720
256	8	3	1	2	33	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.480	0.376	0.890	1.323
257	8	3	1	2	100	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.431	0.298	0.980	1.589
258	8	3	1	2	200	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.429	0.295	1.026	1.723
259	8	3	1	3	33	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.511	0.418	0.992	1.484
260	8	3	1	3	100	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.432	0.500	0.998	1.629
261	8	3	1	3	200	2	10	1	34	0	31	145	0	0	0	0	0	5	15	0.429	0.295	1.027	1.727
262	8	3	1	1	33	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.408	0.311	0.802	1.198
263	8	3	1	1	100	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.390	0.276	0.983	1.600
264	8	3	1	1	200	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.390	0.275	1.042	1.760

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 15:48:17 05-14-76

CASE	ID	CANOPY PARAMETERS: BASE	SPEC	SOIL	DENS	ATMOSPHERIC CHARACTERISTICS: BREF	RO PITD	O PIDD	VIEW GEOMETRY: SZ UENN	VIZ EEWN	ARZ EILM	SCA ANTG	CANOPY CHARACTERISTICS: I %L LU	V %I EW	T %C VR	G %C VR	TIME AND PLACE: LAT	MONTH	DAY	INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS): 500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	3	1	2	33	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.437	0.349	0.893	1.341
266	8	3	1	2	100	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.391	0.277	0.998	1.632
267	8	3	1	2	200	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.390	0.275	1.043	1.763
268	8	3	1	3	33	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.466	0.388	0.990	1.496
269	8	3	1	3	100	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.392	0.279	1.014	1.668
270	8	3	1	3	200	2	10	1	34	6	148	140	0	0	0	0	0	5	15	0.390	0.275	1.044	1.767
271	8	3	1	1	33	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.656	0.512	0.865	1.209
272	8	3	1	1	100	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.637	0.474	1.054	1.628
273	8	3	1	1	200	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.636	0.473	1.117	1.799
274	8	3	1	2	33	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.687	0.554	0.960	1.359
275	8	3	1	2	100	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.638	0.476	1.070	1.663
276	8	3	1	2	200	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.636	0.473	1.118	1.803
277	8	3	1	3	33	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.718	0.595	1.063	1.523
278	8	3	1	3	100	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.639	0.478	1.087	1.702
279	8	3	1	3	200	3	10	1	31	6	18	154	0	0	0	0	0	5	15	0.636	0.473	1.119	1.806
280	8	3	1	1	33	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.572	0.470	0.816	1.156
281	8	3	1	1	100	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.551	0.429	0.993	1.553
282	8	3	1	1	200	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.550	0.427	1.058	1.730
283	8	3	1	2	33	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.605	0.515	0.916	1.312
284	8	3	1	2	100	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.552	0.431	1.010	1.591
285	8	3	1	2	200	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.550	0.427	1.059	1.734
286	8	3	1	3	33	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.639	0.560	1.023	1.482
287	8	3	1	3	100	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.554	0.433	1.030	1.634
288	8	3	1	3	200	3	10	1	31	0	18	148	0	0	0	0	0	5	15	0.550	0.427	1.060	1.738
289	8	3	1	1	33	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.524	0.443	0.819	1.178
290	8	3	1	1	100	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.505	0.405	1.009	1.597
291	8	3	1	1	200	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.504	0.403	1.072	1.768
292	8	3	1	2	33	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.555	0.484	0.915	1.328
293	8	3	1	2	100	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.506	0.406	1.024	1.632
294	8	3	1	2	200	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.504	0.404	1.073	1.772
295	8	3	1	3	33	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.586	0.526	1.018	1.491
296	8	3	1	3	100	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.507	0.408	1.042	1.670
297	8	3	1	3	200	3	10	1	31	6	161	143	0	0	0	0	0	5	15	0.504	0.404	1.074	1.775
298	8	3	1	1	33	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.591	0.472	0.820	1.157
299	8	3	1	1	100	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.573	0.436	1.000	1.557
300	8	3	1	1	200	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.572	0.435	1.059	1.717
301	8	3	1	2	33	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.620	0.510	0.910	1.299
302	8	3	1	2	100	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.574	0.438	1.015	1.589
303	8	3	1	2	200	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.572	0.435	1.060	1.720
304	8	3	1	3	33	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.649	0.549	1.007	1.454
305	8	3	1	3	100	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.575	0.439	1.030	1.625
306	8	3	1	3	200	3	10	1	34	6	31	150	0	0	0	0	0	5	15	0.572	0.435	1.061	1.723
307	8	3	1	1	33	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.533	0.441	0.777	1.107
308	8	3	1	1	100	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.513	0.402	0.945	1.485

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RO PITD	O PIDD	SZ UENN	VIZ FEWN	ARZ EILM	SCA ANTG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	8	3	1	1	200	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.512	0.401	1.006	1.650
310	8	3	1	2	33	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.564	0.483	0.872	1.255
311	8	3	1	2	100	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.514	0.404	0.961	1.520
312	8	3	1	2	200	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.512	0.401	1.007	1.654
313	8	3	1	3	33	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.596	0.524	0.973	1.415
314	8	3	1	3	100	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.515	0.406	0.979	1.560
315	8	3	1	3	200	3	10	1	34	0	31	145	0	0	0	0	0	5	15	0.512	0.401	1.008	1.658
316	8	3	1	1	33	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.492	0.418	0.783	1.130
317	8	3	1	1	100	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.474	0.382	0.964	1.530
318	8	3	1	1	200	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.473	0.381	1.022	1.691
319	8	3	1	2	33	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.521	0.456	0.874	1.273
320	8	3	1	2	100	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.475	0.384	0.978	1.562
321	8	3	1	2	200	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.473	0.381	1.023	1.694
322	8	3	1	3	33	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.550	0.495	0.971	1.427
323	8	3	1	3	100	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.476	0.385	0.994	1.599
324	8	3	1	3	200	3	10	1	34	6	148	140	0	0	0	0	0	5	15	0.474	0.381	1.024	1.697
325	8	3	1	1	33	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.871	0.673	0.867	1.128
326	8	3	1	1	100	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.860	0.650	0.994	1.423
327	8	3	1	1	200	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.859	0.649	1.035	1.540
328	8	3	1	2	33	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.887	0.697	0.930	1.233
329	8	3	1	2	100	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.860	0.651	1.004	1.447
330	8	3	1	2	200	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.860	0.649	1.036	1.542
331	8	3	1	3	33	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.904	0.722	0.997	1.347
332	8	3	1	3	100	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.861	0.652	1.015	1.473
333	8	3	1	3	200	1	4	1	31	6	18	154	0	0	0	0	0	5	15	0.860	0.649	1.037	1.545
334	8	3	1	1	33	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.726	0.596	0.797	1.062
335	8	3	1	1	100	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.714	0.570	0.916	1.341
336	8	3	1	1	200	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.714	0.569	0.958	1.462
337	8	3	1	2	33	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.744	0.622	0.863	1.171
338	8	3	1	2	100	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.715	0.571	0.927	1.367
339	8	3	1	2	200	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.714	0.570	0.959	1.464
340	8	3	1	3	33	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.763	0.649	0.934	1.290
341	8	3	1	3	100	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.715	0.573	0.940	1.396
342	8	3	1	3	200	1	4	1	31	0	18	148	0	0	0	0	0	5	15	0.714	0.570	0.960	1.467
343	8	3	1	1	33	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.647	0.549	0.782	1.066
344	8	3	1	1	100	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.636	0.526	0.910	1.362
345	8	3	1	1	200	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.635	0.526	0.951	1.478
346	8	3	1	2	33	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.663	0.574	0.845	1.171
347	8	3	1	2	100	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.636	0.527	0.920	1.385
348	8	3	1	2	200	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.635	0.526	0.951	1.481
349	8	3	1	3	33	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.680	0.599	0.913	1.285
350	8	3	1	3	100	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.636	0.528	0.931	1.412
351	8	3	1	3	200	1	4	1	31	6	161	143	0	0	0	0	0	5	15	0.635	0.526	0.952	1.483
352	8	3	1	1	33	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.765	0.610	0.810	1.071

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 15:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	8	3	1	1	100	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.755	0.588	0.932	1.353
354	8	3	1	1	200	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.754	0.588	0.970	1.463
355	8	3	1	2	33	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.781	0.633	0.870	1.171
356	8	3	1	2	100	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.755	0.589	0.941	1.375
357	8	3	1	2	200	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.754	0.588	0.971	1.465
358	8	3	1	3	33	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.796	0.656	0.934	1.279
359	8	3	1	3	100	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.755	0.590	0.952	1.400
360	8	3	1	3	200	1	4	1	34	6	31	150	0	0	0	0	0	5	15	0.754	0.588	0.972	1.467
361	8	3	1	1	33	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.671	0.556	0.756	1.014
362	8	3	1	1	100	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.659	0.533	0.869	1.280
363	8	3	1	1	200	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.659	0.532	0.908	1.394
364	8	3	1	2	33	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.688	0.581	0.818	1.118
365	8	3	1	2	100	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.660	0.534	0.879	1.305
366	8	3	1	2	200	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.659	0.532	0.909	1.397
367	8	3	1	3	33	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.705	0.606	0.885	1.231
368	8	3	1	3	100	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.660	0.535	0.891	1.332
369	8	3	1	3	200	1	4	1	34	0	31	145	0	0	0	0	0	5	15	0.659	0.532	0.910	1.399
370	8	3	1	1	33	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.601	0.516	0.744	1.021
371	8	3	1	1	100	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.495	0.866	1.303
372	8	3	1	1	200	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.494	0.904	1.413
373	8	3	1	2	33	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.617	0.539	0.804	1.120
374	8	3	1	2	100	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.495	0.875	1.325
375	8	3	1	2	200	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.494	0.905	1.415
376	8	3	1	3	33	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.633	0.562	0.868	1.228
377	8	3	1	3	100	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.592	0.496	0.886	1.350
378	8	3	1	3	200	1	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.494	0.906	1.417
379	8	3	1	1	33	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.722	0.489	0.918	1.302
380	8	3	1	1	100	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.711	0.466	1.047	1.600
381	8	3	1	1	200	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.711	0.466	1.088	1.717
382	8	3	1	2	33	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.738	0.513	0.981	1.407
383	8	3	1	2	100	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.711	0.467	1.057	1.623
384	8	3	1	2	200	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.711	0.466	1.088	1.720
385	8	3	1	3	33	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.755	0.538	1.049	1.522
386	8	3	1	3	100	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.712	0.468	1.068	1.650
387	8	3	1	3	200	2	4	1	31	6	18	154	0	0	0	0	0	5	15	0.711	0.466	1.089	1.722
388	8	3	1	1	33	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.578	0.412	0.848	1.234
389	8	3	1	1	100	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.566	0.387	0.968	1.515
390	8	3	1	1	200	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.565	0.387	1.010	1.637
391	8	3	1	2	33	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.596	0.439	0.914	1.344
392	8	3	1	2	100	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.566	0.389	0.979	1.542
393	8	3	1	2	200	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.565	0.387	1.011	1.640
394	8	3	1	3	33	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.614	0.465	0.986	1.463
395	8	3	1	3	100	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.567	0.390	0.992	1.571
396	8	3	1	3	200	2	4	1	31	0	18	148	0	0	0	0	0	5	15	0.565	0.387	1.012	1.643

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	3	1	1	33	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.498	0.366	0.833	1.239
398	8	3	1	1	100	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.487	0.343	0.962	1.537
399	8	3	1	1	200	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.486	0.343	1.003	1.654
400	8	3	1	2	33	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.514	0.390	0.897	1.344
401	8	3	1	2	100	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.487	0.344	0.972	1.560
402	8	3	1	2	200	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.486	0.343	1.004	1.657
403	8	3	1	3	33	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.531	0.415	0.965	1.459
404	8	3	1	3	100	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.488	0.345	0.983	1.587
405	8	3	1	3	200	2	4	1	31	6	161	143	0	0	0	0	0	5	15	0.486	0.343	1.005	1.659
406	8	3	1	1	33	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.622	0.432	0.859	1.238
407	8	3	1	1	100	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.611	0.411	0.983	1.523
408	8	3	1	1	200	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.611	0.411	1.021	1.634
409	8	3	1	2	33	2	4	:	34	6	31	150	0	0	0	0	0	5	15	0.637	0.455	0.920	1.339
410	8	3	1	2	100	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.612	0.412	0.992	1.545
411	8	3	1	2	200	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.611	0.411	1.022	1.636
412	8	3	1	3	33	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.652	0.478	0.984	1.448
413	8	3	1	3	100	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.612	0.413	1.002	1.570
414	8	3	1	3	200	2	4	1	34	6	31	150	0	0	0	0	0	5	15	0.611	0.411	1.022	1.638
415	8	3	1	1	33	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.528	0.380	0.805	1.180
416	8	3	1	1	100	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.517	0.357	0.919	1.448
417	8	3	1	1	200	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.516	0.356	0.959	1.563
418	8	3	1	2	33	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.545	0.404	0.868	1.285
419	8	3	1	2	100	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.517	0.357	0.929	1.473
420	8	3	1	2	200	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.516	0.356	0.959	1.565
421	8	3	1	3	33	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.562	0.429	0.935	1.398
422	8	3	1	3	100	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.518	0.358	0.941	1.501
423	8	3	1	3	200	2	4	1	34	0	31	145	0	0	0	0	0	5	15	0.516	0.356	0.960	1.568
424	8	3	1	1	33	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.458	0.339	0.793	1.187
425	8	3	1	1	100	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.448	0.318	0.917	1.472
426	8	3	1	1	200	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.447	0.317	0.955	1.583
427	8	3	1	2	33	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.473	0.362	0.854	1.287
428	8	3	1	2	100	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.448	0.319	0.926	1.494
429	8	3	1	2	200	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.447	0.317	0.956	1.585
430	8	3	1	3	33	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.489	0.385	0.918	1.396
431	8	3	1	3	100	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.448	0.319	0.936	1.519
432	8	3	1	3	200	2	4	1	34	6	148	140	0	0	0	0	0	5	15	0.447	0.317	0.956	1.587
433	8	3	1	1	33	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.844	0.654	0.886	1.186
434	8	3	1	1	100	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.833	0.631	1.014	1.482
435	8	3	1	1	200	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.833	0.630	1.055	1.599
436	8	3	1	2	33	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.861	0.678	0.949	1.291
437	8	3	1	2	100	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.834	0.632	1.024	1.506
438	8	3	1	2	200	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.833	0.630	1.055	1.601
439	8	3	1	3	33	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.878	0.705	1.017	1.405
440	8	3	1	3	100	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.834	0.633	1.035	1.532

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	RASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	3	1	3	200	3	4	1	31	6	18	154	0	0	0	0	0	5	15	0.833	0.630	1.056	1.604
442	8	3	1	1	33	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.700	0.577	0.816	1.119
443	8	3	1	1	100	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.551	0.935	1.399
444	8	3	1	1	200	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.551	0.978	1.520
445	8	3	1	2	33	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.718	0.603	0.883	1.229
446	8	3	1	2	100	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.688	0.552	0.947	1.425
447	8	3	1	2	200	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.551	0.979	1.523
448	8	3	1	3	33	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.736	0.630	0.953	1.347
449	8	3	1	3	100	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.689	0.554	0.959	1.454
450	8	3	1	3	200	3	4	1	31	0	18	148	0	0	0	0	0	5	15	0.687	0.551	0.979	1.526
451	8	3	1	1	33	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.620	0.530	0.801	1.124
452	8	3	1	1	100	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.609	0.508	0.929	1.420
453	8	3	1	1	200	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.608	0.507	0.970	1.537
454	8	3	1	2	33	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.636	0.555	0.865	1.229
455	8	3	1	2	100	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.609	0.509	0.939	1.443
456	8	3	1	2	200	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.608	0.507	0.971	1.539
457	8	3	1	3	33	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.653	0.580	0.932	1.343
458	8	3	1	3	100	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.610	0.509	0.950	1.470
459	8	3	1	3	200	3	4	1	31	6	161	143	0	0	0	0	0	5	15	0.608	0.507	0.972	1.542
460	8	3	1	1	33	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.739	0.591	0.829	1.127
461	8	3	1	1	100	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.729	0.570	0.951	1.410
462	8	3	1	1	200	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.729	0.570	0.989	1.520
463	8	3	1	2	33	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.755	0.614	0.889	1.227
464	8	3	1	2	100	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.729	0.571	0.960	1.432
465	8	3	1	2	200	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.729	0.570	0.990	1.522
466	8	3	1	3	33	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.771	0.638	0.953	1.335
467	8	3	1	3	100	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.730	0.572	0.971	1.457
468	8	3	1	3	200	3	4	1	34	6	31	150	0	0	0	0	0	5	15	0.729	0.570	0.991	1.524
469	8	3	1	1	33	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.645	0.538	0.774	1.069
470	8	3	1	1	100	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.634	0.515	0.887	1.336
471	8	3	1	1	200	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.633	0.514	0.927	1.450
472	8	3	1	2	33	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.662	0.563	0.837	1.173
473	8	3	1	2	100	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.634	0.515	0.898	1.361
474	8	3	1	2	200	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.633	0.514	0.928	1.453
475	8	3	1	3	33	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.679	0.588	0.904	1.286
476	8	3	1	3	100	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.635	0.516	0.910	1.388
477	8	3	1	3	200	3	4	1	34	0	31	145	0	0	0	0	0	5	15	0.633	0.514	0.929	1.455
478	8	3	1	1	33	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.576	0.498	0.763	1.076
479	8	3	1	1	100	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.565	0.476	0.885	1.359
480	8	3	1	1	200	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.565	0.476	0.923	1.469
481	8	3	1	2	33	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.591	0.521	0.823	1.176
482	8	3	1	2	100	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.565	0.477	0.894	1.381
483	8	3	1	2	200	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.565	0.476	0.924	1.471
484	8	3	1	3	33	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.607	0.544	0.887	1.284

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:48:17 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	DPITD	DPIDD	SZUENN	VIZEEWN	ARZEILH	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	3	1	3	100	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.566	0.478	0.905	1.406
486	8	3	1	3	200	3	4	1	34	6	148	140	0	0	0	0	0	5	15	0.565	0.476	0.925	1.473

APPENDIX F
LANDSAT INBAND RADIANCES
POST-HEAD WHEAT CANOPY (NO. 4)

Pages 121-136

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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*****************************************************************************
*                                                                           *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL      *
*                                                                           *
*               LANDSAT            INBAND RADIANCES                         *
*                                                                           *
*****************************************************************************
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** POST-HEADING STAGE, END MAY ***

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

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*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

CANOPY PARAMETERS

BASE CANOPY ('BASE')

1 WHEAT, EMERGENT MID NOV
2 WHEAT, JOINTING MID APR
3 WHEAT, PRE-HEAD MID MAY
4 WHEAT, POST-HEAD END MAY
5 WHEAT, SENESCING MID JUN
6 WHEAT, RIPE END JUN
7 WHEAT, HARVESTED EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

ATMOSPHERIC PARAMETERS

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR
STANDARD ATMOSPHERES,
LABELED BY HORIZONTAL
VISUAL RANGE (KM):
4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT
APPLICABLE IN ALL CASES

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI OD	SZ UE NN	V TZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	4	1	1	33	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.580	0.453	0.873	1.247
2	8	4	1	1	100	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.558	0.409	1.069	1.683
3	8	4	1	1	200	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.557	0.408	1.115	1.811
4	8	4	1	2	33	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.618	0.500	0.977	1.407
5	8	4	1	2	100	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.559	0.411	1.081	1.711
6	8	4	1	2	200	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.557	0.408	1.116	1.812
7	8	4	1	3	33	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.655	0.547	1.088	1.581
8	8	4	1	3	100	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.560	0.413	1.095	1.743
9	8	4	1	3	200	1	23	1	29	6	13	156	0	0	0	0	0	5	30	0.557	0.408	1.116	1.814
10	8	4	1	1	33	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.527	0.427	0.832	1.197
11	8	4	1	1	100	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.502	0.379	1.016	1.614
12	8	4	1	1	200	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.501	0.378	1.065	1.748
13	8	4	1	2	33	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.567	0.478	0.942	1.364
14	8	4	1	2	100	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.503	0.381	1.031	1.[illegible]45
15	8	4	1	2	200	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.501	0.378	1.066	1.750
16	8	4	1	3	33	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.609	0.530	1.059	1.546
17	8	4	1	3	100	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.505	0.383	1.047	1.681
18	8	4	1	3	200	1	23	1	29	0	13	150	0	0	0	0	0	5	30	0.501	0.378	1.066	1.752
19	8	4	1	1	33	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.491	0.406	0.841	1.223
20	8	4	1	1	100	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.469	0.362	1.036	1.659
21	8	4	1	1	200	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.468	0.361	1.083	1.786
22	8	4	1	2	33	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.529	0.453	0.945	1.383
23	8	4	1	2	100	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.470	0.364	1.049	1.687
24	8	4	1	2	200	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.468	0.361	1.083	1.788
25	8	4	1	3	33	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.567	0.500	1.056	1.557
26	8	4	1	3	100	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.471	0.365	1.063	1.719
27	8	4	1	3	200	1	23	1	29	6	166	144	0	0	0	0	0	5	30	0.468	0.361	1.084	1.790
28	8	4	1	1	33	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.545	0.429	0.841	1.206
29	8	4	1	1	100	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.524	0.388	1.028	1.626
30	8	4	1	1	200	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.523	0.387	1.072	1.746
31	8	4	1	2	33	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.580	0.473	0.940	1.359
32	8	4	1	2	100	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.525	0.389	1.040	1.652
33	8	4	1	2	200	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.523	0.387	1.073	1.748
34	8	4	1	3	33	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.616	0.517	1.046	1.526
35	8	4	1	3	100	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.526	0.391	1.053	1.682
36	8	4	1	3	200	1	23	1	31	6	27	153	0	0	0	0	0	5	30	0.523	0.387	1.073	1.749
37	8	4	1	1	33	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.500	0.407	0.802	1.157
38	8	4	1	1	100	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.476	0.361	0.977	1.556
39	8	4	1	1	200	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.475	0.360	1.023	1.683
40	8	4	1	2	33	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.538	0.454	0.906	1.317
41	8	4	1	2	100	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.477	0.363	0.991	1.586
42	8	4	1	2	200	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.475	0.360	1.024	1.684
43	8	4	1	3	33	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.576	0.502	1.017	1.491
44	8	4	1	3	100	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.478	0.365	1.006	1.620

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	UPITO	DPIDD	SZUENN	VIZFEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	4	1	3	200	1	23	1	31	0	27	148	0	0	0	0	0	5	30	0.475	0.360	1.024	1.686
46	8	4	1	1	33	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.471	0.389	0.813	1.185
47	8	4	1	1	100	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.449	0.347	1.000	1.604
48	8	4	1	1	200	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.449	0.346	1.044	1.724
49	8	4	1	2	33	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.506	0.432	0.912	1.338
50	8	4	1	2	100	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.450	0.349	1.012	1.630
51	8	4	1	2	200	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.449	0.346	1.044	1.725
52	8	4	1	3	33	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.541	0.477	1.018	1.504
53	8	4	1	3	100	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.451	0.350	1.025	1.660
54	8	4	1	3	200	1	23	1	31	6	152	142	0	0	0	0	0	5	30	0.449	0.346	1.044	1.727
55	8	4	1	1	33	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.505	0.367	0.895	1.319
56	8	4	1	1	100	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.482	0.324	1.091	1.757
57	8	4	1	1	200	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.482	0.323	1.138	1.885
58	8	4	1	2	33	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.542	0.414	0.999	1.480
59	8	4	1	2	100	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.484	0.325	1.104	1.785
60	8	4	1	2	200	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.482	0.323	1.138	1.887
61	8	4	1	3	33	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.579	0.461	1.110	1.654
62	8	4	1	3	100	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.485	0.327	1.118	1.817
63	8	4	1	3	200	2	23	1	29	6	13	156	0	0	0	0	0	5	30	0.482	0.323	1.139	1.889
64	8	4	1	1	33	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.452	0.342	0.854	1.269
65	8	4	1	1	100	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.427	0.294	1.038	1.687
66	8	4	1	1	200	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.426	0.292	1.087	1.821
67	8	4	1	2	33	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.492	0.393	0.963	1.436
68	8	4	1	2	100	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.428	0.296	1.053	1.718
69	8	4	1	2	200	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.426	0.292	1.088	1.823
70	8	4	1	3	33	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.533	0.444	1.081	1.619
71	8	4	1	3	100	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.430	0.298	1.069	1.754
72	8	4	1	3	200	2	23	1	29	0	13	150	0	0	0	0	0	5	30	0.426	0.292	1.089	1.825
73	8	4	1	1	33	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.416	0.320	0.863	1.295
74	8	4	1	1	100	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.394	0.276	1.059	1.732
75	8	4	1	1	200	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.393	0.275	1.105	1.860
76	8	4	1	2	33	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.453	0.367	0.967	1.455
77	8	4	1	2	100	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.395	0.278	1.071	1.761
78	8	4	1	2	200	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.393	0.275	1.106	1.862
79	8	4	1	3	33	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.491	0.414	1.078	1.630
80	8	4	1	3	100	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.396	0.280	1.085	1.792
81	8	4	1	3	200	2	23	1	29	6	166	144	0	0	0	0	0	5	30	0.393	0.275	1.106	1.864
82	8	4	1	1	33	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.472	0.346	0.862	1.277
83	8	4	1	1	100	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.451	0.305	1.050	1.698
84	8	4	1	1	200	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.450	0.304	1.094	1.818
85	8	4	1	2	33	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.507	0.389	0.961	1.430
86	8	4	1	2	100	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.452	0.306	1.062	1.724
87	8	4	1	2	200	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.450	0.304	1.095	1.820
88	8	4	1	3	33	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.542	0.433	1.068	1.597

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

CASE	ID	BASE	SPEC	SOIL	DENS	BRFF	OPITD	OPIDD	SZUENN	VIZFEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
	CANOPY PARAMETERS					ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
89	8	4	1	3	100	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.453	0.308	1.075	1.754
90	8	4	1	3	200	2	23	1	31	6	27	153	0	0	0	0	0	5	30	0.450	0.304	1.095	1.822
91	8	4	1	1	33	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.427	0.323	0.822	1.227
92	8	4	1	1	100	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.403	0.278	0.999	1.627
93	8	4	1	1	200	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.402	0.277	1.045	1.754
94	8	4	1	2	33	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.464	0.371	0.927	1.387
95	8	4	1	2	100	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.404	0.280	1.013	1.657
96	8	4	1	2	200	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.402	0.277	1.046	1.756
97	8	4	1	3	33	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.503	0.418	1.039	1.561
98	8	4	1	3	100	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.406	0.282	1.028	1.691
99	8	4	1	3	200	2	23	1	31	0	27	148	0	0	0	0	0	5	30	0.402	0.277	1.046	1.758
100	8	4	1	1	33	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.398	0.305	0.834	1.255
101	8	4	1	1	100	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.376	0.264	1.022	1.675
102	8	4	1	1	200	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.376	0.263	1.066	1.796
103	8	4	1	2	33	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.432	0.349	0.933	1.408
104	8	4	1	2	100	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.377	0.265	1.034	1.702
105	8	4	1	2	200	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.376	0.263	1.066	1.797
106	8	4	1	3	33	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.467	0.393	1.039	1.575
107	8	4	1	3	100	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.378	0.267	1.047	1.731
108	8	4	1	3	200	2	23	1	31	6	152	142	0	0	0	0	0	5	30	0.376	0.263	1.067	1.799
109	8	4	1	1	33	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.567	0.444	0.882	1.270
110	8	4	1	1	100	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.544	0.400	1.077	1.707
111	8	4	1	1	200	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.544	0.399	1.124	1.835
112	8	4	1	2	33	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.604	0.491	0.986	1.430
113	8	4	1	2	100	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.546	0.402	1.090	1.735
114	8	4	1	2	200	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.544	0.399	1.124	1.836
115	8	4	1	3	33	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.642	0.538	1.097	1.605
116	8	4	1	3	100	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.547	0.404	1.104	1.767
117	8	4	1	3	200	3	23	1	29	6	13	156	0	0	0	0	0	5	30	0.544	0.399	1.125	1.838
118	8	4	1	1	33	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.513	0.419	0.841	1.221
119	8	4	1	1	100	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.488	0.370	1.025	1.637
120	8	4	1	1	200	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.487	0.369	1.074	1.772
121	8	4	1	2	33	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.554	0.469	0.950	1.388
122	8	4	1	2	100	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.490	0.372	1.040	1.669
123	8	4	1	2	200	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.487	0.369	1.074	1.774
124	8	4	1	3	33	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.595	0.521	1.067	1.570
125	8	4	1	3	100	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.491	0.375	1.056	1.705
126	8	4	1	3	200	3	23	1	29	0	13	150	0	0	0	0	0	5	30	0.487	0.369	1.075	1.776
127	8	4	1	1	33	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.478	0.397	0.850	1.247
128	8	4	1	1	100	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.455	0.353	1.045	1.683
129	8	4	1	1	200	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.455	0.352	1.091	1.811
130	8	4	1	2	33	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.515	0.444	0.954	1.407
131	8	4	1	2	100	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.457	0.355	1.058	1.711
132	8	4	1	2	200	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.455	0.352	1.092	1.812

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S F	S P E C	S U I L	D E N S	R R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	4	1	3	33	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.553	0.491	1.065	1.581
134	8	4	1	3	100	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.458	0.356	1.072	1.743
135	8	4	1	3	200	3	23	1	29	6	166	144	0	0	0	0	0	5	30	0.455	0.352	1.092	1.814
136	8	4	1	1	33	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.532	0.420	0.849	1.229
137	8	4	1	1	100	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.511	0.379	1.037	1.649
138	8	4	1	1	200	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.510	0.378	1.081	1.770
139	8	4	1	2	33	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.567	0.464	0.948	1.382
140	8	4	1	2	100	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.512	0.381	1.049	1.676
141	8	4	1	2	200	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.510	0.378	1.081	1.771
142	8	4	1	3	33	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.603	0.508	1.055	1.549
143	8	4	1	3	100	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.513	0.382	1.062	1.705
144	8	4	1	3	200	3	23	1	31	6	27	153	0	0	0	0	0	5	30	0.510	0.378	1.082	1.773
145	8	4	1	1	33	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.487	0.398	0.810	1.180
146	8	4	1	1	100	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.463	0.352	0.986	1.580
147	8	4	1	1	200	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.462	0.351	1.032	1.706
148	8	4	1	2	33	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.525	0.445	0.914	1.340
149	8	4	1	2	100	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.464	0.354	0.999	1.609
150	8	4	1	2	200	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.462	0.351	1.032	1.708
151	8	4	1	3	33	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.563	0.493	1.026	1.514
152	8	4	1	3	100	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.465	0.356	1.014	1.643
153	8	4	1	3	200	3	23	1	31	0	27	148	0	0	0	0	0	5	30	0.462	0.351	1.033	1.710
154	8	4	1	1	33	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.456	0.380	0.821	1.208
155	8	4	1	1	100	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.436	0.339	1.008	1.627
156	8	4	1	1	200	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.436	0.338	1.052	1.747
157	8	4	1	2	33	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.493	0.424	0.920	1.361
158	8	4	1	2	100	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.437	0.340	1.020	1.654
159	8	4	1	2	200	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.436	0.338	1.053	1.749
160	8	4	1	3	33	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.528	0.468	1.026	1.527
161	8	4	1	3	100	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.438	0.341	1.033	1.683
162	8	4	1	3	200	3	23	1	31	6	152	142	0	0	0	0	0	5	30	0.436	0.338	1.053	1.750
163	8	4	1	1	33	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.698	0.533	0.871	1.210
164	8	4	1	1	100	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.681	0.499	1.035	1.586
165	8	4	1	1	200	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.681	0.498	1.073	1.694
166	8	4	1	2	33	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.725	0.569	0.957	1.347
167	8	4	1	2	100	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.682	0.500	1.045	1.610
168	8	4	1	2	200	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.681	0.496	1.073	1.695
169	8	4	1	3	33	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.752	0.605	1.049	1.497
170	8	4	1	3	100	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.683	0.502	1.057	1.637
171	8	4	1	3	200	1	10	1	29	6	13	156	0	0	0	0	0	5	30	0.681	0.498	1.074	1.697
172	8	4	1	1	33	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.610	0.490	0.821	1.156
173	8	4	1	1	100	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.592	0.453	0.975	1.514
174	8	4	1	1	200	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.591	0.451	1.015	1.627
175	8	4	1	2	33	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.639	0.529	0.911	1.299
176	8	4	1	2	100	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.592	0.454	0.987	1.540

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RO PI TD	O PI DD	SZ UE NN	VIZ EE WN	ARZ FI LM	SCA AN TG	I %L L U	V XI E W	T %C V R	G %C V R	LAT	MON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	4	1	2	200	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.591	0.451	1.015	1.629
178	8	4	1	3	33	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.669	0.569	1.008	1.455
179	8	4	1	3	100	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.593	0.456	1.000	1.571
180	8	4	1	3	200	1	10	1	29	0	13	150	0	0	0	0	0	5	30	0.591	0.451	1.016	1.630
181	8	4	1	1	33	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.555	0.459	0.822	1.176
182	8	4	1	1	100	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.538	0.425	0.986	1.551
183	8	4	1	1	200	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.538	0.424	1.024	1.[illegible]59
184	8	4	1	2	33	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.582	0.495	0.908	1.313
185	8	4	1	2	100	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.539	0.426	0.996	1.575
186	8	4	1	2	200	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.538	0.424	1.024	1.660
187	8	4	1	3	33	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.609	0.531	1.000	1.462
188	8	4	1	3	100	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.540	0.427	1.007	1.602
189	8	4	1	3	200	1	10	1	29	6	166	144	0	0	0	0	0	5	30	0.538	0.424	1.025	1.662
190	8	4	1	1	33	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.647	0.502	0.836	1.169
191	8	4	1	1	100	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.632	0.470	0.993	1.531
192	8	4	1	1	200	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.631	0.469	1.030	1.633
193	8	4	1	2	33	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.673	0.536	0.918	1.301
194	8	4	1	2	100	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.632	0.471	1.003	1.553
195	8	4	1	2	200	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.631	0.469	1.030	1.634
196	8	4	1	3	33	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.698	0.570	1.006	1.444
197	8	4	1	3	100	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.633	0.472	1.014	1.579
198	8	4	1	3	200	1	10	1	31	6	27	153	0	0	0	0	0	5	30	0.631	0.469	1.030	1.636
199	8	4	1	1	33	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.574	0.465	0.789	1.116
200	8	4	1	1	100	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.556	0.429	0.936	1.460
201	8	4	1	1	200	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.556	0.428	0.974	1.567
202	8	4	1	2	33	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.601	0.501	0.875	1.253
203	8	4	1	2	100	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.537	0.431	0.948	1.485
204	8	4	1	2	200	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.556	0.428	0.975	1.568
205	8	4	1	3	33	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.629	0.538	0.968	1.403
206	8	4	1	3	100	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.558	0.432	0.960	1.513
207	8	4	1	3	200	1	10	1	31	0	27	148	0	0	0	0	0	5	30	0.556	0.428	0.975	1.570
208	6	4	1	1	33	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.530	0.439	0.794	1.139
209	8	4	1	1	100	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.514	0.407	0.951	1.500
210	8	4	1	1	200	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.514	0.407	0.987	1.602
211	8	4	1	2	33	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.555	0.473	0.876	1.270
212	8	4	1	2	100	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.515	0.408	0.961	1.522
213	8	4	1	2	200	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.514	0.407	0.987	1.603
214	8	4	1	3	33	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.580	0.507	0.964	1.413
215	8	4	1	3	100	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.515	0.409	0.971	1.547
216	8	4	1	3	200	1	10	1	31	6	152	142	0	0	0	0	0	5	30	0.514	0.407	0.988	1.604
217	8	4	1	1	33	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.590	0.408	0.903	1.318
218	8	4	1	1	100	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.574	0.375	1.068	1.695
219	8	4	1	1	200	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.573	0.374	1.106	1.804
220	8	4	1	2	33	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.617	0.444	0.989	1.455

***** OUTPUT CALCULATIONS FROM FRIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	T%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	4	1	2	100	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.575	0.376	1.078	1.719
222	8	4	1	2	200	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.573	0.374	1.106	1.805
223	8	4	1	3	33	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.644	0.480	1.081	1.605
224	8	4	1	3	100	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.575	0.377	1.089	1.746
225	8	4	1	3	200	2	10	1	29	6	13	156	0	0	0	0	0	5	30	0.573	0.374	1.107	1.806
226	8	4	1	1	33	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.503	0.366	0.852	1.262
227	8	4	1	1	100	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.485	0.329	1.007	1.621
228	8	4	1	1	200	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.484	0.328	1.047	1.735
229	8	4	1	2	33	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.532	0.405	0.943	1.406
230	8	4	1	2	100	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.486	0.330	1.019	1.648
231	8	4	1	2	200	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.484	0.328	1.048	1.737
232	8	4	1	3	33	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.561	0.444	1.040	1.563
233	8	4	1	3	100	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.487	0.332	1.032	1.679
234	8	4	1	3	200	2	10	1	29	0	13	150	0	0	0	0	0	5	30	0.484	0.328	1.049	1.739
235	8	4	1	1	33	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.448	0.334	0.854	1.282
236	8	4	1	1	100	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.431	0.301	1.018	1.660
237	8	4	1	1	200	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.431	0.300	1.057	1.768
238	8	4	1	2	33	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.474	0.370	0.940	1.420
239	8	4	1	2	100	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.432	0.302	1.029	1.684
240	8	4	1	2	200	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.431	0.300	1.057	1.769
241	8	4	1	3	33	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.501	0.406	1.032	1.570
242	8	4	1	3	100	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.432	0.303	1.040	1.710
243	8	4	1	3	200	2	10	1	29	6	166	144	0	0	0	0	0	5	30	0.431	0.300	1.058	1.771
244	8	4	1	1	33	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.543	0.380	0.867	1.274
245	8	4	1	1	100	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.527	0.349	1.025	1.637
246	8	4	1	1	200	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.527	0.348	1.062	1.740
247	8	4	1	2	33	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.568	0.414	0.949	1.406
248	8	4	1	2	100	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.528	0.350	1.035	1.660
249	8	4	1	2	200	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.527	0.348	1.062	1.741
250	8	4	1	3	33	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.593	0.448	1.037	1.549
251	8	4	1	3	100	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.529	0.351	1.046	1.685
252	8	4	1	3	200	2	10	1	31	6	27	153	0	0	0	0	0	5	30	0.527	0.348	1.062	1.742
253	8	4	1	1	33	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.470	0.344	0.820	1.219
254	8	4	1	1	100	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.453	0.309	0.968	1.565
255	8	4	1	1	200	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.452	0.308	1.006	1.672
256	8	4	1	2	33	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.497	0.380	0.906	1.357
257	8	4	1	2	100	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.453	0.310	0.979	1.590
258	8	4	1	2	200	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.452	0.308	1.006	1.674
259	8	4	1	3	33	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.524	0.417	0.999	1.507
260	8	4	1	3	100	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.454	0.311	0.991	1.619
261	8	4	1	3	200	2	10	1	31	0	27	148	0	0	0	0	0	5	30	0.452	0.308	1.007	1.675
262	8	4	1	1	33	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.425	0.318	0.825	1.242
263	8	4	1	1	100	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.410	0.286	0.983	1.605
264	8	4	1	1	200	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.409	0.285	1.019	1.708

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITO	OPIDD	SZUFNN	VIZFEWN	ARZEILM	SCAANTG	IXLLU	VXIEW	TXCVR	GXCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	4	1	2	33	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.450	0.351	0.907	1.374
266	8	4	1	2	100	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.410	0.287	0.993	1.628
267	8	4	1	2	200	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.409	0.285	1.019	1.709
268	8	4	1	3	33	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.475	0.385	0.995	1.518
269	8	4	1	3	100	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.411	0.288	1.003	1.653
270	8	4	1	3	200	2	10	1	31	6	152	142	0	0	0	0	0	5	30	0.409	0.285	1.020	1.710
271	8	4	1	1	33	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.679	0.520	0.883	1.246
272	8	4	1	1	100	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.662	0.486	1.047	1.622
273	8	4	1	1	200	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.662	0.485	1.086	1.730
274	8	4	1	2	33	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.705	0.556	0.969	1.383
275	8	4	1	2	100	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.663	0.487	1.058	1.646
276	8	4	1	2	200	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.662	0.485	1.086	1.731
277	8	4	1	3	33	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.732	0.592	1.061	1.532
278	8	4	1	3	100	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.664	0.489	1.069	1.673
279	8	4	1	3	200	3	10	1	29	6	13	156	0	0	0	0	0	5	30	0.662	0.485	1.087	1.733
280	8	4	1	1	33	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.591	0.477	0.833	1.191
281	8	4	1	1	100	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.573	0.440	0.987	1.549
282	8	4	1	1	200	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.572	0.438	1.027	1.663
283	8	4	1	2	33	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.620	0.516	0.924	1.334
284	8	4	1	2	100	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.573	0.441	0.999	1.576
285	8	4	1	2	200	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.572	0.439	1.028	1.664
286	8	4	1	3	33	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.650	0.556	1.021	1.491
287	8	4	1	3	100	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.574	0.443	1.012	1.606
288	8	4	1	3	200	3	10	1	29	0	13	150	0	0	0	0	0	5	30	0.572	0.439	1.028	1.666
289	8	4	1	1	33	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.536	0.446	0.834	1.211
290	8	4	1	1	100	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.519	0.412	0.998	1.587
291	8	4	1	1	200	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.519	0.411	1.037	1.695
292	8	4	1	2	33	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.563	0.482	0.920	1.348
293	8	4	1	2	100	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.520	0.413	1.009	1.611
294	8	4	1	2	200	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.519	0.411	1.037	1.690
295	8	4	1	3	33	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.590	0.518	1.012	1.498
296	8	4	1	3	100	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.521	0.414	1.020	1.638
297	8	4	1	3	200	3	10	1	29	6	166	144	0	0	0	0	0	5	30	0.519	0.411	1.037	1.698
298	8	4	1	1	33	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.629	0.489	0.848	1.204
299	8	4	1	1	100	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.613	0.457	1.006	1.566
300	8	4	1	1	200	3	[illegible]	1	31	6	27	153	0	0	0	0	0	5	30	0.613	0.457	1.042	1.668
301	8	4	1	2	33	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.654	0.523	0.930	1.335
302	8	4	1	2	100	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.614	0.458	1.015	1.588
303	8	4	1	2	200	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.613	0.457	1.042	1.669
304	8	4	1	3	33	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.679	0.557	1.018	1.478
305	8	4	1	3	100	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.614	0.459	1.026	1.614
306	8	4	1	3	200	3	10	1	31	6	27	153	0	0	0	0	0	5	30	0.613	0.457	1.043	1.671
307	8	4	1	1	33	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.556	0.452	0.801	1.150
308	8	4	1	1	100	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.538	0.417	0.949	1.494

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI OD	SZ UE NN	V IZ EE WN	A AZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	8	4	1	1	200	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.537	0.416	0.986	1.602
310	8	4	1	2	33	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.583	0.489	0.887	1.288
311	8	4	1	2	100	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.539	0.418	0.960	1.526
312	8	4	1	2	200	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.537	0.416	0.987	1.603
313	8	4	1	3	33	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.610	0.526	0.980	1.437
314	8	4	1	3	100	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.539	0.419	0.972	1.548
315	8	4	1	3	200	3	10	1	31	0	27	148	0	0	0	0	0	5	30	0.537	0.416	0.987	1.605
316	8	4	1	1	33	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.511	0.427	0.806	1.173
317	8	4	1	1	100	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.495	0.395	0.963	1.535
318	8	4	1	1	200	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.495	0.394	0.999	1.637
319	8	4	1	2	33	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.536	0.460	0.888	1.304
320	8	4	1	2	100	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.496	0.396	0.973	1.557
321	8	4	1	2	200	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.495	0.394	1.000	1.638
322	8	4	1	3	33	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.542	0.494	0.976	1.448
323	8	4	1	3	100	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.497	0.397	0.984	1.582
324	8	4	1	3	200	3	10	1	31	6	152	142	0	0	0	0	0	5	30	0.495	0.394	1.000	1.639
325	8	4	1	1	33	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.911	0.692	0.888	1.160
326	8	4	1	1	100	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.902	0.672	0.998	1.423
327	8	4	1	1	200	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.902	0.672	1.023	1.495
328	8	4	1	2	33	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.925	0.713	0.944	1.255
329	8	4	1	2	100	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.902	0.673	1.005	1.439
330	8	4	1	2	200	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.902	0.672	1.023	1.496
331	8	4	1	3	33	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.940	0.734	1.005	1.358
332	8	4	1	3	100	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.903	0.673	1.012	1.457
333	8	4	1	3	200	1	4	1	29	6	13	156	0	0	0	0	0	5	30	0.902	0.672	1.023	1.497
334	8	4	1	1	33	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.759	0.612	0.817	1.092
335	8	4	1	1	100	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.749	0.590	0.919	1.341
336	8	4	1	1	200	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.748	0.589	0.945	1.418
337	8	4	1	2	33	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.775	0.635	0.876	1.191
338	8	4	1	2	100	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.749	0.590	0.927	1.359
339	8	4	1	2	200	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.748	0.589	0.945	1.419
340	8	4	1	3	33	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.790	0.658	0.939	1.300
341	8	4	1	3	100	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.749	0.591	0.935	1.380
342	8	4	1	3	200	1	4	1	29	0	13	150	0	0	0	0	0	5	30	0.748	0.589	0.946	1.420
343	8	4	1	1	33	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.666	0.559	0.798	1.094
344	8	4	1	1	100	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.657	0.540	0.907	1.357
345	8	4	1	1	200	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.657	0.539	0.932	1.430
346	8	4	1	2	33	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.681	0.580	0.854	1.189
347	8	4	1	2	100	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.657	0.540	0.914	1.373
348	8	4	1	2	200	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.657	0.539	0.932	1.430
349	8	4	1	3	33	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.695	0.602	0.914	1.293
350	8	4	1	3	100	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.658	0.541	0.921	1.391
351	8	4	1	3	200	1	4	1	29	6	166	144	0	0	0	0	0	5	30	0.657	0.539	0.932	1.431
352	8	4	1	1	33	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.830	0.644	0.845	1.115

***** OUTPUT CALCULATIONS FROM ERTH MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	IXLLU	VXIEW	TXCVR	GXCVR	LAT	MUNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	8	4	1	1	100	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.822	0.625	0.951	1.369
354	8	4	1	1	200	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.821	0.625	0.974	1.438
355	8	4	1	2	33	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.844	0.664	0.899	1.207
356	8	4	1	2	100	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.822	0.626	0.957	1.384
357	8	4	1	2	200	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.821	0.625	0.974	1.439
358	8	4	1	3	33	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.857	0.684	0.956	1.306
359	8	4	1	3	100	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.822	0.626	0.963	1.401
360	8	4	1	3	200	1	4	1	31	6	27	153	0	0	0	0	0	5	30	0.821	0.625	0.974	1.439
361	8	4	1	1	33	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.706	0.577	0.781	1.052
362	8	4	1	1	100	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.696	0.556	0.879	1.292
363	8	4	1	1	200	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.696	0.555	0.904	1.365
364	8	4	1	2	33	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.721	0.598	0.838	1.148
365	8	4	1	2	100	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.696	0.556	0.886	1.309
366	8	4	1	2	200	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.696	0.555	0.904	1.366
367	8	4	1	3	33	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.735	0.620	0.898	1.252
368	8	4	1	3	100	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.697	0.557	0.890	1.328
369	8	4	1	3	200	1	4	1	31	0	27	148	0	0	0	0	0	5	30	0.696	0.555	0.904	1.367
370	8	4	1	1	33	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.632	0.534	0.768	1.058
371	8	4	1	1	100	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.623	0.515	0.874	1.311
372	8	4	1	1	200	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.623	0.515	0.897	1.380
373	8	4	1	2	33	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.645	0.554	0.822	1.149
374	8	4	1	2	100	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.623	0.516	0.880	1.327
375	8	4	1	2	200	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.623	0.515	0.897	1.381
376	8	4	1	3	33	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.659	0.574	0.880	1.249
377	8	4	1	3	100	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.624	0.516	0.887	1.344
378	8	4	1	3	200	1	4	1	31	6	152	142	0	0	0	0	0	5	30	0.623	0.515	0.898	1.382
379	8	4	1	1	33	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.760	0.506	0.940	1.336
380	8	4	1	1	100	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.751	0.486	1.051	1.601
381	8	4	1	1	200	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.751	0.486	1.076	1.674
382	8	4	1	2	33	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.774	0.526	0.997	1.432
383	8	4	1	2	100	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.752	0.487	1.057	1.617
384	8	4	1	2	200	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.751	0.486	1.076	1.675
385	8	4	1	3	33	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.788	0.547	1.057	1.536
386	8	4	1	3	100	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.752	0.487	1.065	1.635
387	8	4	1	3	200	2	4	1	29	6	13	156	0	0	0	0	0	5	30	0.751	0.486	1.076	1.676
388	8	4	1	1	33	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.609	0.426	0.868	1.266
389	8	4	1	1	100	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.598	0.405	0.971	1.518
390	8	4	1	1	200	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.598	0.404	0.997	1.595
391	8	4	1	2	33	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.624	0.449	0.927	1.366
392	8	4	1	2	100	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.599	0.405	0.979	1.536
393	8	4	1	2	200	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.598	0.404	0.998	1.596
394	8	4	1	3	33	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.639	0.472	0.991	1.476
395	8	4	1	3	100	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.599	0.406	0.987	1.556
396	8	4	1	3	200	2	4	1	29	0	13	150	0	0	0	0	0	5	30	0.598	0.404	0.998	1.597

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCANTG	%LLU	%IEW	%CVR	%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	4	1	1	33	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.515	0.373	0.849	1.269
398	8	4	1	1	100	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.506	0.354	0.960	1.534
399	8	4	1	1	200	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.506	0.353	0.985	1.607
400	8	4	1	2	33	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.529	0.394	0.906	1.365
401	8	4	1	2	100	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.507	0.354	0.967	1.550
402	8	4	1	2	200	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.506	0.353	0.985	1.608
403	8	4	1	3	33	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.543	0.415	0.966	1.469
404	8	4	1	3	100	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.507	0.355	0.974	1.568
405	8	4	1	3	200	2	4	1	29	6	166	144	0	0	0	0	0	5	30	0.506	0.353	0.985	1.609
406	8	4	1	1	33	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.684	0.463	0.895	1.286
407	8	4	1	1	100	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.444	1.002	1.542
408	8	4	1	1	200	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.444	1.025	1.612
409	8	4	1	2	33	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.697	0.483	0.949	1.378
410	8	4	1	2	100	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.445	1.008	1.557
411	8	4	1	2	200	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.444	1.026	1.612
412	8	4	1	3	33	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.710	0.502	1.007	1.479
413	8	4	1	3	100	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.446	1.015	1.574
414	8	4	1	3	200	2	4	1	31	6	27	153	0	0	0	0	0	5	30	0.675	0.444	1.026	1.613
415	8	4	1	1	33	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.560	0.396	0.831	1.221
416	8	4	1	1	100	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.550	0.376	0.930	1.464
417	8	4	1	1	200	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.550	0.375	0.955	1.537
418	8	4	1	2	33	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.574	0.418	0.888	1.318
419	8	4	1	2	100	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.550	0.376	0.937	1.481
420	8	4	1	2	200	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.550	0.375	0.955	1.536
421	8	4	1	3	33	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.589	0.439	0.949	1.423
422	8	4	1	3	100	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.551	0.377	0.945	1.500
423	8	4	1	3	200	2	4	1	31	0	27	148	0	0	0	0	0	5	30	0.550	0.375	0.956	1.539
424	8	4	1	1	33	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.485	0.353	0.819	1.228
425	8	4	1	1	100	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.477	0.335	0.925	1.484
426	8	4	1	1	200	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.476	0.334	0.949	1.553
427	8	4	1	2	33	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.498	0.373	0.873	1.320
428	8	4	1	2	100	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.477	0.335	0.931	1.499
429	8	4	1	2	200	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.476	0.334	0.949	1.554
430	8	4	1	3	33	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.512	0.392	0.931	1.420
431	8	4	1	3	100	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.477	0.336	0.938	1.516
432	8	4	1	3	200	2	4	1	31	6	152	142	0	0	0	0	0	5	30	0.476	0.334	0.949	1.555
433	8	4	1	1	33	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.884	0.673	0.908	1.218
434	8	4	1	1	100	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.875	0.653	1.018	1.482
435	8	4	1	1	200	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.875	0.652	1.042	1.555
436	8	4	1	2	33	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.898	0.694	0.964	1.314
437	8	4	1	2	100	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.875	0.653	1.024	1.498
438	8	4	1	2	200	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.875	0.653	1.043	1.556
439	8	4	1	3	33	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.913	0.715	1.024	1.418
440	8	4	1	3	100	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.876	0.654	1.032	1.516

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOTL	DENS	BREF	ROPITD	OPIOD	SZUENN	VZIFEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	4	1	3	200	3	4	1	29	6	13	156	0	0	0	0	0	5	30	0.875	0.653	1.043	1.557
442	8	4	1	1	33	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.732	0.593	0.836	1.150
443	8	4	1	1	100	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.722	0.571	0.939	1.400
444	8	4	1	1	200	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.721	0.570	0.965	1.477
445	8	4	1	2	33	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.747	0.616	0.895	1.250
446	8	4	1	2	100	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.722	0.571	0.946	1.418
447	8	4	1	2	200	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.721	0.570	0.965	1.478
448	8	4	1	3	33	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.763	0.639	0.959	1.358
449	8	4	1	3	100	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.722	0.572	0.954	1.438
450	8	4	1	3	200	3	4	1	29	0	13	150	0	0	0	0	0	5	30	0.721	0.570	0.965	1.479
451	8	4	1	1	33	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.639	0.540	0.817	1.152
452	8	4	1	1	100	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.630	0.520	0.927	1.416
453	8	4	1	1	200	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.630	0.520	0.952	1.489
454	8	4	1	2	33	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.653	0.561	0.873	1.248
455	8	4	1	2	100	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.630	0.521	0.934	1.432
456	8	4	1	2	200	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.630	0.520	0.952	1.489
457	8	4	1	3	33	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.668	0.583	0.934	1.352
458	8	4	1	3	100	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.631	0.522	0.941	1.450
459	8	4	1	3	200	3	4	1	29	6	166	144	0	0	0	0	0	5	30	0.630	0.520	0.952	1.490
460	8	4	1	1	33	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.804	0.625	0.864	1.172
461	8	4	1	1	100	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.795	0.607	0.970	1.427
462	8	4	1	1	200	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.795	0.606	0.993	1.496
463	8	4	1	2	33	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.817	0.645	0.918	1.264
464	8	4	1	2	100	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.796	0.607	0.976	1.442
465	8	4	1	2	200	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.795	0.606	0.993	1.496
466	8	4	1	3	33	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.831	0.665	0.975	1.364
467	8	4	1	3	100	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.796	0.608	0.983	1.459
468	8	4	1	3	200	3	4	1	31	6	27	153	0	0	0	0	0	5	30	0.795	0.606	0.994	1.497
469	8	4	1	1	33	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.680	0.558	0.800	1.108
470	8	4	1	1	100	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.537	0.899	1.349
471	8	4	1	1	200	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.537	0.923	1.422
472	8	4	1	2	33	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.694	0.580	0.857	1.204
473	8	4	1	2	100	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.538	0.906	1.366
474	8	4	1	2	200	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.537	0.923	1.423
475	8	4	1	3	33	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.709	0.602	0.918	1.309
476	8	4	1	3	100	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.538	0.913	1.385
477	8	4	1	3	200	3	4	1	31	0	27	148	0	0	0	0	0	5	30	0.670	0.537	0.924	1.424
478	8	4	1	1	33	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.606	0.515	0.787	1.115
479	8	4	1	1	100	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.497	0.893	1.369
480	8	4	1	1	200	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.496	0.916	1.438
481	8	4	1	2	33	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.619	0.535	0.841	1.206
482	8	4	1	2	100	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.497	0.899	1.384
483	8	4	1	2	200	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.496	0.917	1.439
484	8	4	1	3	33	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.632	0.555	0.899	1.306

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:49:20 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	U PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	4	1	3	100	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.498	0.906	1.401
486	8	4	1	3	200	3	4	1	31	6	152	142	0	0	0	0	0	5	30	0.597	0.496	0.917	1.439

ORIGINAL PAGE IS
OF POOR QUALITY

APPENDIX G
LANDSAT INBAND RADIANCES
SENESCING WHEAT CANOPY (NO. 5)

Pages 137-152

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107


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**************************************************************************
*                                                                        *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL   *
*                                                                        *
*                 LANDSAT            INBAND RADIANCES                    *
*                                                                        *
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** SENESCING STAGE, MID JUNE ***

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

|CANOPY PARAMETERS|

BASE CANOPY ('BASE')

1	WHEAT, EMERGENT	MID NOV
2	WHEAT, JOINTING	MID APR
3	WHEAT, PRE-HEAD	MID MAY
4	WHEAT, POST-HEAD	END MAY
5	WHEAT, SENESCING	MID JUN
6	WHEAT, RIPE	END JUN
7	WHEAT, HARVESTED	EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSMTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

|ATMOSPHERIC PARAMETERS|

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR
STANDARD ATMOSPHERES,
LABELED BY HORIZONTAL
VISUAL RANGE (KM):
4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

|KEY TO OUTPUT PARAMETERS|

LABEL	DESCRIPTION
CASE......	SEQUENTIAL CASE NUMBER
ID........	SIMULATION TYPE (SEE PAGE 2)
BASE......	CANOPY TYPE AND STRUCTURE
SPEC......	SPECTRAL PROPERTY CLASS
SOIL......	SOIL REFLECTANCE CLASS
DENS......	PERCENT OF BASE DENSITY
BREF......	BACKGROUND REFLECTANCE CLASS
OPT ID....	OPTICAL THICKNESS CLASS
OPD ID....	OPTICAL DEPTH CLASS
SUN ZEN...	SOLAR ZENITH ANGLE
VIEW ZEN..	VIEW ZENITH ANGLE
REL AZIM..	RELATIVE AZIMUTH ANGLE
SCAT ANG..	SCATTERING ANGLE
% ILLU....	PERCENT OF SOIL ILLUMINATED
% VIEW....	PER CENT OF SOIL VIEWED
% TCOVR...	CANOPY PCT COVER, TOTAL
% GCOVR...	CANOPY PCT COVER, GREEN LEAF
LAT.......	SIMULATION LATITUDE OF VIEW
MONTH.....	SIMULATION MONTH OF YEAR
DAY.......	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT
APPLICABLE IN ALL CASES

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	ARZFILM	SCANTG	%LLU	%IEW	%CVR	%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	5	1	1	30	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.626	0.548	0.756	1.041
2	8	5	1	1	100	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.587	0.464	0.868	1.337
3	8	5	1	1	175	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.581	0.450	0.933	1.511
4	8	5	1	2	30	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.702	0.644	0.892	1.235
5	8	5	1	2	100	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.593	0.473	0.889	1.378
6	8	5	1	2	175	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.582	0.450	0.936	1.518
7	8	5	1	3	30	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.778	0.742	1.034	1.442
8	8	5	1	3	100	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.600	0.482	0.912	1.424
9	8	5	1	3	175	1	23	1	28	6	11	156	0	0	0	0	0	6	9	0.582	0.451	0.934	1.525
10	8	5	1	1	30	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.572	0.521	0.723	1.003
11	8	5	1	1	100	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.531	0.433	0.820	1.271
12	8	5	1	1	175	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.524	0.417	0.884	1.441
13	8	5	1	2	30	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.652	0.622	0.860	1.204
14	8	5	1	2	100	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.538	0.444	0.844	1.317
15	8	5	1	2	175	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.525	0.418	0.887	1.450
16	8	5	1	3	30	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.732	0.725	1.013	1.418
17	8	5	1	3	100	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.546	0.455	0.870	1.368
18	8	5	1	3	175	1	23	1	28	0	11	151	0	0	0	0	0	6	9	0.526	0.419	0.891	1.459
19	8	5	1	1	30	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.535	0.498	0.720	1.013
20	8	5	1	1	100	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.495	0.413	0.832	1.307
21	8	5	1	1	175	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.490	0.400	0.898	1.482
22	8	5	1	2	30	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.610	0.594	0.856	1.207
23	8	5	1	2	100	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.501	0.422	0.853	1.349
24	8	5	1	2	175	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.490	0.401	0.900	1.489
25	8	5	1	3	30	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.686	0.692	0.999	1.414
26	8	5	1	3	100	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.508	0.432	0.875	1.394
27	8	5	1	3	175	1	23	1	28	6	168	145	0	0	0	0	0	6	9	0.491	0.401	0.903	1.496
28	8	5	1	1	30	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.595	0.525	0.730	1.010
29	8	5	1	1	100	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.556	0.442	0.838	1.297
30	8	5	1	1	175	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.551	0.430	0.902	1.466
31	8	5	1	2	30	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.667	0.617	0.861	1.197
32	8	5	1	2	100	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.562	0.450	0.858	1.336
33	8	5	1	2	175	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.551	0.430	0.904	1.472
34	8	5	1	3	30	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.739	0.710	0.998	1.396
35	8	5	1	3	100	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.568	0.459	0.879	1.378
36	8	5	1	3	175	1	23	1	31	6	25	154	0	0	0	0	0	6	9	0.552	0.431	0.907	1.479
37	8	5	1	1	30	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.546	0.499	0.698	0.972
38	8	5	1	1	100	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.505	0.413	0.791	1.231
39	8	5	1	1	175	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.499	0.399	0.853	1.397
40	8	5	1	2	30	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.622	0.596	0.834	1.166
41	8	5	1	2	100	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.512	0.423	0.813	1.274
42	8	5	1	2	175	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.499	0.400	0.856	1.404
43	8	5	1	3	30	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.698	0.694	0.976	1.371
44	8	5	1	3	100	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.519	0.433	0.837	1.321

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

	CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	UPITO	DPIDD	SZUENN	VTZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	HOUTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	5	1	3	175	1	23	1	31	0	25	148	0	0	0	0	0	6	9	0.500	0.401	0.859	1.412
46	8	5	1	1	30	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.516	0.481	0.698	0.984
47	8	5	1	1	100	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.477	0.398	0.805	1.269
48	8	5	1	1	175	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.472	0.386	0.870	1.440
49	8	5	1	2	30	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.587	0.572	0.829	1.171
50	8	5	1	2	100	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.483	0.406	0.825	1.308
51	8	5	1	2	175	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.473	0.386	0.872	1.446
52	8	5	1	3	30	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.660	0.665	0.966	1.369
53	8	5	1	3	100	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.488	0.414	0.846	1.350
54	8	5	1	3	175	1	23	1	31	6	154	143	0	0	0	0	0	6	9	0.473	0.387	0.875	1.452
55	8	5	1	1	30	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.550	0.461	0.776	1.113
56	8	5	1	1	100	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.511	0.378	0.889	1.410
57	8	5	1	1	175	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.506	0.364	0.955	1.584
58	8	5	1	2	30	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.625	0.557	0.913	1.308
59	8	5	1	2	100	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.518	0.387	0.911	1.451
60	8	5	1	2	175	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.506	0.364	0.958	1.591
61	8	5	1	3	30	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.700	0.654	1.056	1.515
62	8	5	1	3	100	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.524	0.396	0.933	1.496
63	8	5	1	3	175	2	23	1	28	6	11	156	0	0	0	0	0	6	9	0.507	0.365	0.960	1.598
64	8	5	1	1	30	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.497	0.434	0.743	1.074
65	8	5	1	1	100	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.455	0.347	0.841	1.342
66	8	5	1	1	175	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.449	0.332	0.906	1.514
67	8	5	1	2	30	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.576	0.535	0.885	1.275
68	8	5	1	2	100	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.463	0.358	0.866	1.389
69	8	5	1	2	175	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.450	0.333	0.909	1.522
70	8	5	1	3	30	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.655	0.637	1.034	1.490
71	8	5	1	3	100	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.471	0.369	0.891	1.440
72	8	5	1	3	175	2	23	1	28	0	11	151	0	0	0	0	0	6	9	0.450	0.334	0.912	1.531
73	8	5	1	1	30	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.459	0.411	0.741	1.084
74	8	5	1	1	100	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.419	0.327	0.853	1.380
75	8	5	1	1	175	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.414	0.314	0.920	1.555
76	8	5	1	2	30	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.533	0.507	0.877	1.279
77	8	5	1	2	100	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.426	0.336	0.874	1.421
78	8	5	1	2	175	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.415	0.315	0.922	1.562
79	8	5	1	3	30	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.609	0.603	1.020	1.486
80	8	5	1	3	100	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.432	0.345	0.897	1.466
81	8	5	1	3	175	2	23	1	28	6	168	145	0	0	0	0	0	6	9	0.415	0.315	0.925	1.569
82	8	5	1	1	30	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.521	0.440	0.750	1.080
83	8	5	1	1	100	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.483	0.358	0.859	1.368
84	8	5	1	1	175	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.477	0.346	0.923	1.538
85	8	5	1	2	30	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.592	0.531	0.881	1.267
86	8	5	1	2	100	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.488	0.366	0.879	1.407
87	8	5	1	2	175	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.478	0.346	0.926	1.544
88	8	5	1	3	30	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.664	0.623	1.019	1.467

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	RREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	5	1	3	100	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.494	0.374	0.900	1.449
90	8	5	1	3	175	2	23	1	31	6	25	154	0	0	0	0	0	6	9	0.478	0.347	0.928	1.551
91	8	5	1	1	30	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.472	0.415	0.718	1.0[illegible]1
92	8	5	1	1	100	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.431	0.329	0.812	1.[illegible]1
93	8	5	1	1	175	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.425	0.315	0.874	1.[illegible]67
94	8	5	1	2	30	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.547	0.510	0.854	1.235
95	8	5	1	2	100	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.438	0.339	0.834	1.344
96	8	5	1	2	175	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.426	0.316	0.877	1.475
97	8	5	1	3	30	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.623	0.608	0.997	1.442
98	8	5	1	3	100	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.445	0.349	0.858	1.392
99	8	5	1	3	175	2	23	1	31	0	25	148	0	0	0	0	0	6	9	0.427	0.317	0.880	1.483
100	8	5	1	1	30	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.442	0.396	0.718	1.053
101	8	5	1	1	100	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.403	0.314	0.827	1.340
102	8	5	1	1	175	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.398	0.302	0.891	1.511
103	8	5	1	2	30	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.513	0.487	0.849	1.241
104	8	5	1	2	100	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.409	0.322	0.846	1.379
105	8	5	1	2	175	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.399	0.302	0.894	1.517
106	8	5	1	3	30	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.585	0.579	0.987	1.440
107	8	5	1	3	100	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.415	0.330	0.867	1.421
108	8	5	1	3	175	2	23	1	31	6	154	143	0	0	0	0	0	6	9	0.399	0.303	0.896	1.524
109	8	5	1	1	30	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.613	0.539	0.764	1.064
110	8	5	1	1	100	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.574	0.455	0.877	1.361
111	8	5	1	1	175	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.568	0.441	0.942	1.535
112	8	5	1	2	30	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.688	0.635	0.900	1.259
113	8	5	1	2	100	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.580	0.464	0.898	1.402
114	8	5	1	2	175	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.568	0.441	0.944	1.541
115	8	5	1	3	30	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.764	0.733	1.043	1.466
116	8	5	1	3	100	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.587	0.473	0.920	1.447
117	8	5	1	3	175	3	23	1	28	6	11	156	0	0	0	0	0	6	9	0.569	0.442	0.947	1.549
118	8	5	1	1	30	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.559	0.512	0.731	1.026
119	8	5	1	1	100	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.517	0.424	0.829	1.294
120	8	5	1	1	175	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.511	0.408	0.893	1.465
121	8	5	1	2	30	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.638	0.613	0.873	1.227
122	8	5	1	2	100	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.525	0.435	0.853	1.340
123	8	5	1	2	175	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.512	0.409	0.896	1.473
124	8	5	1	3	30	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.719	0.716	1.021	1.441
125	8	5	1	3	100	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.533	0.446	0.879	1.391
126	8	5	1	3	175	3	23	1	28	0	11	151	0	0	0	0	0	6	9	0.512	0.410	0.899	1.482
127	8	5	1	1	30	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.521	0.489	0.728	1.036
128	8	5	1	1	100	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.481	0.404	0.840	1.331
129	8	5	1	1	175	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.476	0.391	0.906	1.506
130	8	5	1	2	30	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.596	0.585	0.865	1.231
131	8	5	1	2	100	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.488	0.413	0.861	1.372
132	8	5	1	2	175	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.477	0.392	0.909	1.513

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTD	OPDD	SZUENN	VIZEEWN	AZREILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	5	1	3	30	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.672	0.683	1.007	1.438
134	8	5	1	3	100	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.494	0.423	0.884	1.418
135	8	5	1	3	175	3	23	1	28	6	168	145	0	0	0	0	0	6	9	0.477	0.392	0.912	1.520
136	8	5	1	1	30	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.582	0.516	0.738	1.033
137	8	5	1	1	100	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.543	0.433	0.847	1.320
138	8	5	1	1	175	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.538	0.421	0.911	1.489
139	8	5	1	2	30	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.653	0.608	0.869	1.220
140	8	5	1	2	100	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.549	0.442	0.066	1.359
141	8	5	1	2	175	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.538	0.421	0.913	1.496
142	8	5	1	3	30	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.726	0.701	1.006	1.419
143	8	5	1	3	100	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.555	0.450	0.887	1.401
144	8	5	1	3	175	3	23	1	31	6	25	154	0	0	0	0	0	6	9	0.539	0.422	0.915	1.502
145	8	5	1	1	30	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.533	0.490	0.706	0.995
146	8	5	1	1	100	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.492	0.404	0.799	1.253
147	8	5	1	1	175	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.486	0.390	0.862	1.420
148	8	5	1	2	30	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.608	0.587	0.842	1.188
149	8	5	1	2	100	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.499	0.414	0.822	1.297
150	8	5	1	2	175	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.486	0.391	0.864	1.427
151	8	5	1	3	30	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.685	0.685	0.985	1.394
152	8	5	1	3	100	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.506	0.424	0.846	1.344
153	8	5	1	3	175	3	23	1	31	0	25	148	0	0	0	0	0	6	9	0.487	0.392	0.867	1.435
154	8	5	1	1	30	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.503	0.472	0.706	1.006
155	8	5	1	1	100	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.464	0.389	0.814	1.293
156	8	5	1	1	175	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.459	0.377	0.878	1.463
157	8	5	1	2	30	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.574	0.563	0.837	1.194
158	8	5	1	2	100	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.469	0.397	0.833	1.331
159	8	5	1	2	175	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.459	0.377	0.881	1.469
160	8	5	1	3	30	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.647	0.656	0.974	1.393
161	8	5	1	3	100	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.475	0.405	0.854	1.374
162	8	5	1	3	175	3	23	1	31	6	154	143	0	0	0	0	0	6	9	0.460	0.378	0.883	1.476
163	8	5	1	1	30	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.736	0.611	0.768	1.028
164	8	5	1	1	100	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.706	0.543	0.865	1.287
165	8	5	1	1	175	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.702	0.533	0.920	1.437
166	8	5	1	2	30	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.791	0.687	0.881	1.194
167	8	5	1	2	100	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.710	0.549	0.882	1.321
168	8	5	1	2	175	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.702	0.533	0.922	1.442
169	8	5	1	3	30	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.847	0.763	0.999	1.371
170	8	5	1	3	100	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.714	0.556	0.900	1.359
171	8	5	1	3	175	1	10	1	28	6	11	156	0	0	0	0	0	6	9	0.702	0.534	0.924	1.449
172	8	5	1	1	30	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.649	0.567	0.726	0.984
173	8	5	1	1	100	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.616	0.495	0.809	1.217
174	8	5	1	1	175	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.612	0.484	0.863	1.365
175	8	5	1	2	30	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.707	0.646	0.843	1.157
176	8	5	1	2	100	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.621	0.503	0.828	1.256

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMO-SPHERIC CHARACT-ERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	5	1	2	175	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.612	0.485	0.865	1.372
178	8	5	1	3	30	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.766	0.727	0.966	1.340
179	8	5	1	3	100	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.626	0.511	0.849	1.299
180	8	5	1	3	175	1	10	1	28	0	11	151	0	0	0	0	0	6	9	0.612	0.486	0.868	1.379
181	8	5	1	1	30	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.590	0.534	0.717	0.990
182	8	5	1	1	100	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.559	0.466	0.813	1.248
183	8	5	1	1	175	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.555	0.456	0.868	1.399
184	8	5	1	2	30	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.645	0.610	0.829	1.156
185	8	5	1	2	100	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.563	0.472	0.829	1.283
186	8	5	1	2	175	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.556	0.457	0.870	1.404
187	8	5	1	3	30	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.701	0.687	0.947	1.333
188	8	5	1	3	100	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.568	0.479	0.847	1.321
189	8	5	1	3	175	1	10	1	28	6	168	145	0	0	0	0	0	6	9	0.556	0.457	0.872	1.411
190	8	5	1	1	30	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.692	0.582	0.741	0.996
191	8	5	1	1	100	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.662	0.515	0.834	1.248
192	8	5	1	1	175	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.658	0.506	0.887	1.394
193	8	5	1	2	30	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.744	0.654	0.849	1.156
194	8	5	1	2	100	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.665	0.521	0.849	1.280
195	8	5	1	2	175	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.658	0.507	0.889	1.399
196	8	5	1	3	30	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.798	0.728	0.962	1.327
197	8	5	1	3	100	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.669	0.527	0.866	1.316
198	8	5	1	3	175	1	10	1	31	6	25	154	0	0	0	0	0	6	9	0.659	0.507	0.891	1.404
199	8	5	1	1	30	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.613	0.541	0.700	0.953
200	8	5	1	1	100	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.581	0.471	0.779	1.179
201	8	5	1	1	175	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.577	0.461	0.832	1.322
202	8	5	1	2	30	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.669	0.617	0.813	1.119
203	8	5	1	2	100	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.585	0.476	0.797	1.215
204	8	5	1	2	175	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.577	0.462	0.834	1.329
205	8	5	1	3	30	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.725	0.695	0.931	1.296
206	8	5	1	3	100	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.590	0.486	0.616	1.255
207	8	5	1	3	175	1	10	1	31	0	25	148	0	0	0	0	0	6	9	0.578	0.462	0.836	1.336
208	8	5	1	1	30	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.567	0.515	0.694	0.961
209	8	5	1	1	100	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.537	0.448	0.787	1.212
210	8	5	1	1	175	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.534	0.440	0.841	1.359
211	8	5	1	2	30	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.620	0.587	0.803	1.122
212	8	5	1	2	100	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.541	0.454	0.803	1.244
213	8	5	1	2	175	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.534	0.440	0.843	1.364
214	8	5	1	3	30	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.673	0.661	0.916	1.292
215	8	5	1	3	100	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.545	0.460	0.819	1.280
216	8	5	1	3	175	1	10	1	31	6	154	143	0	0	0	0	0	6	9	0.534	0.440	0.845	1.369
217	8	5	1	1	30	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.628	0.485	0.799	1.134
218	8	5	1	1	100	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.598	0.418	0.897	1.395
219	8	5	1	1	175	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.594	0.408	0.952	1.545
220	8	5	1	2	30	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.683	0.560	0.912	1.301

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	UPITD	OPIDD	SZUENN	VIZEEWN	ARZEILH	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MUNTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	5	1	2	100	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.602	0.424	0.913	1.429
222	8	5	1	2	175	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.594	0.408	0.954	1.551
223	8	5	1	3	30	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.738	0.636	1.031	1.479
224	8	5	1	3	100	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.606	0.431	0.931	1.468
225	8	5	1	3	175	2	10	1	28	6	11	156	0	0	0	0	0	6	9	0.595	0.408	0.956	1.557
226	8	5	1	1	30	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.541	0.441	0.757	1.089
227	8	5	1	1	100	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.509	0.371	0.840	1.324
228	8	5	1	1	175	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.504	0.360	0.895	1.472
229	8	5	1	2	30	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.599	0.520	0.870	1.262
230	8	5	1	2	100	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.514	0.379	0.860	1.363
231	8	5	1	2	175	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.505	0.361	0.897	1.479
232	8	5	1	3	30	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.657	0.601	0.998	1.447
233	8	5	1	3	100	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.519	0.387	0.880	1.406
234	8	5	1	3	175	2	10	1	28	0	11	151	0	0	0	0	0	6	9	0.505	0.361	0.900	1.487
235	8	5	1	1	30	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.482	0.409	0.748	1.095
236	8	5	1	1	100	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.451	0.341	0.844	1.355
237	8	5	1	1	175	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.448	0.331	0.900	1.507
238	8	5	1	2	30	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.536	0.483	0.861	1.262
239	8	5	1	2	100	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.455	0.347	0.861	1.390
240	8	5	1	2	175	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.448	0.332	0.902	1.512
241	8	5	1	3	30	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.592	0.559	0.979	1.440
242	8	5	1	3	100	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.460	0.354	0.879	1.428
243	8	5	1	3	175	2	10	1	28	6	168	145	0	0	0	0	0	6	9	0.448	0.332	0.905	1.518
244	8	5	1	1	30	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.586	0.459	0.771	1.100
245	8	5	1	1	100	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.557	0.393	0.865	1.353
246	8	5	1	1	175	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.553	0.384	0.919	1.500
247	8	5	1	2	30	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.638	0.531	0.879	1.261
248	8	5	1	2	100	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.560	0.399	0.880	1.385
249	8	5	1	2	175	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.553	0.384	0.920	1.505
250	8	5	1	3	30	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.691	0.603	0.993	1.432
251	8	5	1	3	100	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.564	0.405	0.897	1.421
252	8	5	1	3	175	2	10	1	31	6	25	154	0	0	0	0	0	6	9	0.554	0.385	0.922	1.510
253	8	5	1	1	30	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.508	0.419	0.730	1.056
254	8	5	1	1	100	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.476	0.350	0.810	1.283
255	8	5	1	1	175	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.472	0.340	0.863	1.427
256	8	5	1	2	30	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.563	0.494	0.843	1.223
257	8	5	1	2	100	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.481	0.357	0.828	1.319
258	8	5	1	2	175	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.473	0.340	0.865	1.433
259	8	5	1	3	30	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.619	0.571	0.961	1.400
260	8	5	1	3	100	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.485	0.364	0.847	1.359
261	8	5	1	3	175	2	10	1	31	0	25	148	0	0	0	0	0	6	9	0.473	0.341	0.867	1.440
262	8	5	1	1	30	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.462	0.392	0.725	1.064
263	8	5	1	1	100	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.432	0.326	0.818	1.316
264	8	5	1	1	175	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.429	0.317	0.873	1.464

***** OUTPUT CALCULATIONS FROM FRIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S F	S P E C	S O I L	D E N S	B R E F	O PI TD	D PI DD	SZ UF NN	V TZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	5	1	2	30	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.514	0.464	0.833	1.225
266	8	5	1	2	100	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.436	0.332	0.834	1.349
267	8	5	1	2	175	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.429	0.318	0.875	1.469
268	8	5	1	3	30	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.567	0.536	0.947	1.397
269	8	5	1	3	100	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.440	0.338	0.851	1.385
270	8	5	1	3	175	2	10	1	31	6	154	143	0	0	0	0	0	6	9	0.429	0.318	0.876	1.475
271	8	5	1	1	30	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.717	0.598	0.781	1.063
272	8	5	1	1	100	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.686	0.530	0.877	1.322
273	8	5	1	1	175	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.683	0.519	0.932	1.473
274	8	5	1	2	30	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.772	0.673	0.893	1.229
275	8	5	1	2	100	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.691	0.536	0.894	1.357
276	8	5	1	2	175	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.683	0.520	0.934	1.478
277	8	5	1	3	30	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.828	0.750	1.011	1.407
278	8	5	1	3	100	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.695	0.543	0.912	1.395
279	8	5	1	3	175	3	10	1	28	6	11	156	0	0	0	0	0	6	9	0.683	0.520	0.936	1.484
280	8	5	1	1	30	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.629	0.554	0.738	1.019
281	8	5	1	1	100	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.597	0.482	0.821	1.253
282	8	5	1	1	175	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.592	0.471	0.875	1.400
283	8	5	1	2	30	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.688	0.633	0.856	1.192
284	8	5	1	2	100	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.602	0.490	0.840	1.292
285	8	5	1	2	175	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.593	0.472	0.878	1.407
286	8	5	1	3	30	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.747	0.714	0.978	1.375
287	8	5	1	3	100	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.607	0.498	0.861	1.334
288	8	5	1	3	175	3	10	1	28	0	11	151	0	0	0	0	0	6	9	0.593	0.473	0.880	1.415
289	8	5	1	1	30	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.570	0.521	0.729	1.025
290	8	5	1	1	100	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.[illegible]40	0.453	0.825	1.283
291	8	5	1	1	175	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.536	0.443	0.881	1.434
292	8	5	1	2	30	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.625	0.597	0.842	1.191
293	8	5	1	2	100	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.544	0.459	0.842	1.318
294	8	5	1	2	175	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.536	0.444	0.883	1.440
295	8	5	1	3	30	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.681	0.673	0.960	1.369
296	8	5	1	3	100	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.548	0.466	0.860	1.356
297	8	5	1	3	175	3	10	1	28	6	168	145	0	0	0	0	0	6	9	0.537	0.444	0.885	1.446
298	8	5	1	1	30	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.673	0.569	0.752	1.030
299	8	5	1	1	100	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.643	0.503	0.846	1.282
300	8	5	1	1	175	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.639	0.493	0.899	1.428
301	8	5	1	2	30	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.725	0.641	0.861	1.191
302	8	5	1	2	100	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.647	0.508	0.861	1.315
303	8	5	1	2	175	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.640	0.494	0.901	1.434
304	8	5	1	3	30	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.779	0.715	0.974	1.362
305	8	5	1	3	100	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.651	0.515	0.878	1.351
306	8	5	1	3	175	3	10	1	31	6	25	154	0	0	0	0	0	6	9	0.640	0.494	0.903	1.439
307	8	5	1	1	30	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.594	0.528	0.712	0.987
308	8	5	1	1	100	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.562	0.459	0.791	1.215

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ODPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
309	8	5	1	1	175	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.558	0.448	0.844	1.357
310	8	5	1	2	30	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.650	0.604	0.824	1.153
311	8	5	1	2	100	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.567	0.466	0.809	1.250
312	8	5	1	2	175	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.558	0.449	0.846	1.363
313	8	5	1	3	30	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.706	0.682	0.943	1.330
314	8	5	1	3	100	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.571	0.473	0.828	1.290
315	8	5	1	3	175	3	10	1	31	0	25	148	0	0	0	0	0	6	9	0.559	0.450	0.848	1.370
316	8	5	1	1	30	3	[illegible]	1	31	6	154	143	0	0	0	0	0	6	9	0.548	0.502	0.706	0.995
317	8	5	1	1	100	[illegible]	[illegible]	1	31	6	154	143	0	0	0	0	0	6	9	0.518	0.436	0.799	1.246
318	8	5	1	1	175	[illegible]	[illegible]	[illegible]	31	6	154	143	0	0	0	0	0	6	9	0.515	0.427	0.854	1.393
319	8	5	1	2	30	[illegible]	[illegible]	1	31	6	154	143	0	0	0	0	0	6	9	0.601	0.574	0.815	1.156
320	8	5	1	2	100	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0.522	0.441	0.815	1.279
321	8	5	1	2	175	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0.515	0.427	0.855	1.399
322	8	5	1	3	30	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0.654	0.648	0.928	1.327
323	8	5	1	3	100	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0.526	0.448	0.831	1.315
324	8	5	1	3	175	3	10	1	31	6	154	143	0	0	0	0	0	6	9	0.516	0.428	0.857	1.404
325	8	5	1	1	30	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.940	0.745	0.816	1.025
326	8	5	1	1	100	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.921	0.701	0.883	1.213
327	8	5	1	1	175	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.920	0.696	0.920	1.318
328	8	5	1	2	30	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.970	0.790	0.890	1.140
329	8	5	1	2	100	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.923	0.704	0.893	1.235
330	8	5	1	2	175	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.920	0.696	0.922	1.322
331	8	5	1	3	30	1	4	1	28	6	11	156	0	0	0	0	0	6	9	1.001	0.837	0.966	1.263
332	8	5	1	3	100	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.925	0.708	0.904	1.261
333	8	5	1	3	175	1	4	1	28	6	11	156	0	0	0	0	0	6	9	0.920	0.696	0.923	1.326
334	8	5	1	1	30	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.789	0.664	0.751	0.966
335	8	5	1	1	100	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.769	0.618	0.808	1.134
336	8	5	1	1	175	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.767	0.613	0.844	1.238
337	8	5	1	2	30	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.821	0.713	0.828	1.086
338	8	5	1	2	100	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.771	0.623	0.820	1.160
339	8	5	1	2	175	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.767	0.613	0.846	1.242
340	8	5	1	3	30	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.854	0.763	0.908	1.213
341	8	5	1	3	100	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.774	0.627	0.832	1.188
342	8	5	1	3	175	1	4	1	28	0	11	151	0	0	0	0	0	6	9	0.767	0.613	0.847	1.247
343	8	5	1	1	30	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.690	0.610	0.724	0.957
344	8	5	1	1	100	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.671	0.566	0.790	1.144
345	8	5	1	1	175	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.670	0.561	0.828	1.250
346	8	5	1	2	30	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.720	0.655	0.797	1.072
347	8	5	1	2	100	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.673	0.569	0.800	1.167
348	8	5	1	2	175	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.670	0.561	0.829	1.254
349	8	5	1	3	30	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.751	0.702	0.874	1.195
350	8	5	1	3	100	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.675	0.573	0.811	1.192
351	8	5	1	3	175	1	4	1	28	6	168	145	0	0	0	0	0	6	9	0.670	0.561	0.830	1.258
352	8	5	1	1	30	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.870	0.702	0.781	0.990

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-18-76

CASE	ID	BASE	SPEC	SOIL	DENS	HRFF	OPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %L LU	V %I EH	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
353	8	5	1	1	100	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.852	0.660	0.846	1.172
354	8	5	1	1	175	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.850	0.655	0.882	1.275
355	8	5	1	2	30	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.899	0.746	0.851	1.101
356	8	5	1	2	100	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.853	0.663	0.855	1.19[illegible]
357	8	5	1	2	175	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.850	0.655	0.683	1.278
358	8	5	1	3	30	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.926	0.791	0.926	1.219
359	8	5	1	3	100	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.855	0.666	0.865	1.218
360	8	5	1	3	175	1	4	1	31	6	25	154	0	0	0	0	0	6	9	0.850	0.655	0.884	1.282
361	8	5	1	1	30	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.735	0.629	0.720	0.934
362	8	5	1	1	100	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.716	0.585	0.774	1.096
363	8	5	1	1	175	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.714	0.579	0.810	1.197
364	8	5	1	2	30	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.766	0.676	0.794	1.049
365	8	5	1	2	100	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.718	0.588	0.785	1.120
366	8	5	1	2	175	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.714	0.580	0.811	1.201
367	8	5	1	3	30	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.798	0.723	0.871	1.172
368	8	5	1	3	100	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.720	0.592	0.797	1.147
369	8	5	1	3	175	1	4	1	31	0	25	148	0	0	0	0	0	6	9	0.714	0.580	0.813	1.206
370	8	5	1	1	30	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.660	0.586	0.700	0.929
371	8	5	1	1	100	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.642	0.544	0.764	1.111
372	8	5	1	1	175	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.640	0.539	0.801	1.214
373	8	5	1	2	30	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.689	0.630	0.770	1.040
374	8	5	1	2	100	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.643	0.547	0.774	1.133
375	8	5	1	2	175	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.640	0.539	0.802	1.217
376	8	5	1	3	30	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.719	0.675	0.845	1.159
377	8	5	1	3	100	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.645	0.550	0.784	1.156
378	8	5	1	3	175	1	4	1	31	6	154	143	0	0	0	0	0	6	9	0.640	0.539	0.803	1.221
379	8	5	1	1	30	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.788	0.557	0.867	1.200
380	8	5	1	1	100	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.770	0.514	0.935	1.389
381	8	5	1	1	175	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.768	0.509	0.973	1.496
382	8	5	1	2	30	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.818	0.602	0.941	1.316
383	8	5	1	2	100	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.772	0.516	0.945	1.412
384	8	5	1	2	175	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.769	0.509	0.974	1.499
385	8	5	1	3	30	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.849	0.649	1.018	1.440
386	8	5	1	3	100	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.774	0.521	0.956	1.438
387	8	5	1	3	175	2	4	1	28	6	11	156	0	0	0	0	0	6	9	0.769	0.510	0.975	1.503
388	8	5	1	1	30	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.638	0.478	0.802	1.139
389	8	5	1	1	100	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.618	0.433	0.859	1.308
390	8	5	1	1	175	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.616	0.427	0.896	1.413
391	8	5	1	2	30	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.670	0.526	0.879	1.260
392	8	5	1	2	100	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.620	0.437	0.871	1.334
393	8	5	1	2	175	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.616	0.427	0.898	1.418
394	8	5	1	3	30	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.702	0.575	0.96[illegible]	1.388
395	8	5	1	3	100	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.623	0.441	0.884	1.363
396	8	5	1	3	175	2	4	1	28	0	11	151	0	0	0	0	0	6	9	0.617	0.428	0.899	1.423

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASF	SPEC	SOIL	DENS	BREF	O PT TD	O PI DD	SZ UF NN	V TZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	5	1	1	30	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.538	0.422	0.775	1.131
398	8	5	1	1	100	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.520	0.379	0.842	1.320
399	8	5	1	1	175	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.518	0.374	0.890	1.426
400	8	5	1	2	30	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.568	0.468	0.848	1.247
401	8	5	1	2	100	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.522	0.383	0.852	1.343
402	8	5	1	2	175	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.518	0.375	0.881	1.430
403	8	5	1	3	30	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.599	0.514	0.926	1.370
404	8	5	1	3	100	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.524	0.386	0.863	1.368
405	8	5	1	3	175	2	4	1	28	6	168	145	0	0	0	0	0	6	9	0.519	0.375	0.882	1.434
406	8	5	1	1	30	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.722	0.519	0.831	1.160
407	8	5	1	1	100	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.704	0.478	0.896	1.344
408	8	5	1	1	175	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.702	0.473	0.933	1.448
409	8	5	1	2	30	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.750	0.563	0.902	1.272
410	8	5	1	2	100	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.706	0.481	0.906	1.366
411	8	5	1	2	175	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.702	0.473	0.934	1.451
412	8	5	1	3	30	2	4	1	31	6	25	154	0	0	0	0	0		9	0.780	0.607	0.976	1.392
413	8	5	1	3	100	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.707	0.484	0.916	1.390
414	8	5	1	3	175	2	4	1	31	6	25	154	0	0	0	0	0	6	9	0.703	0.473	0.935	1.455
415	8	5	1	1	30	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.588	0.447	0.770	1.102
416	8	5	1	1	100	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.569	0.403	0.825	1.266
417	8	5	1	1	175	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.567	0.398	0.861	1.368
418	8	5	`	2	30	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.619	0.495	0.844	1.219
419	8	5	1	2	100	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.571	0.407	0.836	1.291
420	8	5	1	2	175	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.567	0.398	0.862	1.372
421	8	5	1	3	30	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.650	0.540	0.921	1.343
422	8	5	1	3	100	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.573	0.411	0.848	1.318
423	8	5	1	3	175	2	4	1	31	0	25	148	0	0	0	0	0	6	9	0.567	0.399	0.863	1.377
424	8	5	1	1	30	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.512	0.404	0.750	1.098
425	8	5	1	1	100	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.494	0.362	0.815	1.282
426	8	5	1	1	175	2	4	1	31	6	154	143	-0	0	0	0	0	6	9	0.493	0.357	0.852	1.386
427	8	5	1	2	30	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.541	0.447	0.821	1.210
428	8	5	1	2	100	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.496	0.365	0.824	1.304
429	8	5	1	2	175	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.493	0.357	0.853	1.389
430	8	5	1	3	30	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.570	0.491	0.895	1.330
431	8	5	1	3	100	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.497	0.368	0.835	1.328
432	8	5	1	3	175	2	4	1	31	6	154	143	0	0	0	0	0	6	9	0.493	0.358	0.854	1.393
433	8	5	1	1	30	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.913	0.725	0.836	1.083
434	8	5	1	1	100	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.894	0.682	0.903	1.271
435	8	5	1	1	175	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.893	0.676	0.940	1.377
436	8	5	1	2	30	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.943	0.771	0.909	1.199
437	8	5	1	2	100	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.896	0.685	0.913	1.294
438	8	5	1	2	175	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.893	0.677	0.941	1.381
439	8	5	1	3	30	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.974	0.818	0.986	1.322
440	8	5	1	3	100	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.898	0.688	0.924	1.320

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZFEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	5	1	3	175	3	4	1	28	6	11	156	0	0	0	0	0	6	9	0.893	0.677	0.943	1.385
442	8	5	1	1	30	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.762	0.645	0.771	1.024
443	8	5	1	1	100	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.742	0.599	0.827	1.192
444	8	5	1	1	175	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.740	0.594	0.864	1.296
445	8	5	1	2	30	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.794	0.694	0.847	1.144
446	8	5	1	2	100	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.744	0.603	0.839	1.218
447	8	5	1	2	175	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.740	0.594	0.865	1.301
448	8	5	1	3	30	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.827	0.743	0.928	1.272
449	8	5	1	3	100	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.747	0.608	0.852	1.246
450	8	5	1	3	175	3	4	1	28	0	11	151	0	0	0	0	0	6	9	0.740	0.594	0.867	1.306
451	8	5	1	1	30	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.663	0.590	0.743	1.015
452	8	5	1	1	100	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.644	0.547	0.810	1.203
453	8	5	1	1	175	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.642	0.542	0.847	1.309
454	8	5	1	2	30	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.693	0.636	0.816	1.130
455	8	5	1	2	100	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.646	0.550	0.820	1.226
456	8	5	1	2	175	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.643	0.542	0.849	1.312
457	8	5	1	3	30	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.724	0.683	0.893	1.253
458	8	5	1	3	100	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.648	0.553	0.831	1.251
459	8	5	1	3	175	3	4	1	28	6	168	145	0	0	0	0	0	6	9	0.643	0.542	0.850	1.317
460	8	5	1	1	30	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.843	0.683	0.800	1.046
461	8	5	1	1	100	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.825	0.641	0.865	1.229
462	8	5	1	1	175	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.823	0.636	0.901	1.332
463	8	5	1	2	30	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.872	0.727	0.871	1.158
464	8	5	1	2	100	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.827	0.644	0.874	1.251
465	8	5	1	2	175	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.824	0.636	0.902	1.336
466	8	5	1	3	30	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.902	0.772	0.945	1.277
467	8	5	1	3	100	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.828	0.647	0.884	1.275
468	8	5	1	3	175	3	4	1	31	6	25	154	0	0	0	0	0	6	9	0.824	0.637	0.903	1.340
469	8	5	1	1	30	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.709	0.611	0.739	0.990
470	8	5	1	1	100	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.689	0.566	0.793	1.153
471	8	5	1	1	175	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.688	0.561	0.829	1.254
472	8	5	1	2	30	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.740	0.657	0.813	1.106
473	8	5	1	2	100	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.692	0.569	0.804	1.177
474	8	5	1	2	175	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.688	0.561	0.830	1.258
475	8	5	1	3	30	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.771	0.705	0.890	1.229
476	8	5	1	3	100	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.694	0.573	0.816	1.204
477	8	5	1	3	175	3	4	1	31	0	25	148	0	0	0	0	0	6	9	0.688	0.561	0.832	1.263
478	8	5	1	1	30	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.633	0.567	0.719	0.985
479	8	5	1	1	100	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.615	0.525	0.783	1.168
480	8	5	1	1	175	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.614	0.520	0.826	1.271
481	8	5	1	[illegible]	30	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.662	0.611	0.790	1.097
482	8	5	1	2	100	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.617	0.528	0.793	1.189
483	8	5	1	2	175	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.614	0.521	0.821	1.274
484	8	5	1	3	30	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.692	0.656	0.864	1.215

ORIGINAL PAGE IS OF POOR QUALITY

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:50:39 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	5	1	3	100	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.619	0.531	0.803	1.213
486	8	5	1	3	175	3	4	1	31	6	154	143	0	0	0	0	0	6	9	0.614	0.521	0.822	1.278

APPENDIX H

LANDSAT INBAND RADIANCES
RIPE WHEAT CANOPY (NO. 6)

Pages 153-168

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) *****

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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**************************************************************************
*                                                                        *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL   *
*                                                                        *
*              LANDSAT           INBAND RADIANCES                        *
*                                                                        *
**************************************************************************
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** RIPE STAGE, END JUNE ***

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

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*** SIMULATED SPECTRAL RESPONSE FOR....    LANDSAT

*** NUMBER OF SPECTRAL BANDS...........   4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

    BAND   NOMINAL           EXTREMES                          CALIBRATION FACTORS

     1  0.500 TO 0.600    0.460 TO 0.640  MICROMETERS             1.00000
     2  0.600 TO 0.700    0.590 TO 0.760                          1.00000
     3  0.700 TO 0.800    0.660 TO 0.920                          1.00000
     4  0.800 TO 1.100    0.790 TO 1.100                          1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

    +-----------------+
    |CANOPY PARAMETERS|
    +-----------------+

     BASE CANOPY ('BASE')
     --------------------
      1 WHEAT, EMERGENT    MID NOV
      2 WHEAT, JOINTING    MID APR
      3 WHEAT, PRE-HEAD    MID MAY
      4 WHEAT, POST-HEAD   END MAY
      5 WHEAT, SENESCING   MID JUN
      6 WHEAT, RIPE        END JUN
      7 WHEAT, HARVESTED   EARLY JUL

     SPECTRAL PROPERTIES ('SPEC')
     ----------------------------
      1 ERIM  1975 MSMTS

     SOIL REFLECTANCE ('SOIL')
     -------------------------
      1 CONDIT M - SIGMA
      2 CONDIT MEAN SOIL
      3 CONDIT M + SIGMA

     DENSITY MULTIPLIER
     ------------------
      <100  SPARSE
       100  BASE
      >100  DENSE

    +---------------------+
    |ATMOSPHERIC PARAMETERS|
    +---------------------+

     BACKGROUND REFLECTANCE ('BREF')
     -------------------------------
      1 BARE SOIL (SOIL CLASS 2)
      2 GREEN VEGETATION
      3 LIGHT SOIL, HARVESTED
        BROWN VEGETATION

     OPTICAL THICKNESS ('OPT ID')
     ----------------------------
     SPECTRAL CHARACTERISTICS FOR
     STANDARD ATMOSPHERES,
     LABELED BY HORIZONTAL
     VISUAL RANGE (KM):
      4 HAZY
     10 MODERATE HAZE
     23 CLEAR

     OPTICAL DEPTH ('OPD ID')
     ------------------------
      1 TOP OF THE ATMOSPHERE

     LATITUDE ('LAT')
     ----------------
     NOT CODED; SUN ZENITH ANGLES ARE:
     FOR 38N: 61,38,31,29,28,29,29 DEG
     FOR 46N: 67,42,34,31,31,31,31 DEG
     EACH FOR THE 7 BASES RESPECTIVELY
     (SUN ZEN = 57 IS THE DIFFUSE CASE)

  VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
           %ILLU,%VIEW,%TCVR,%GCVR

+-------------------------------------------+
|KEY TO OUTPUT PARAMETERS|                   |
|------------------------                   |
|  LABEL          DESCRIPTION               |
|CASE......SEQUENTIAL CASE NUMBER           |
|ID........SIMULATION TYPE (SEE PAGE 2)     |
|BASE......CANOPY TYPE AND STRUCTURE        |
|SPEC......SPECTRAL PROPERTY CLASS          |
|SOIL......SOIL REFLECTANCE CLASS           |
|DENS......PERCENT OF BASE DENSITY          |
|BREF......BACKGROUND REFLECTANCE CLASS     |
|OPT ID....OPTICAL THICKNESS CLASS          |
|OPD ID....OPTICAL DEPTH CLASS              |
|SUN ZEN...SOLAR ZENITH ANGLE               |
|VIEW ZEN..VIEW ZENITH ANGLE                |
|REL AZIM..RELATIVE AZIMUTH ANGLE           |
|SCAT ANG..SCATTERING ANGLE                 |
|% ILLU....PERCENT OF SOIL ILLUMINATED      |
|% VIEW....PER CENT OF SOIL VIEWED          |
|% TCOVR...CANOPY PCT COVER, TOTAL          |
|% GCOVR...CANOPY PCT COVER, GREEN LEAF     |
|LAT.......SIMULATION  LATITUDE OF VIEW     |
|MONTH.....SIMULATION  MONTH OF YEAR        |
|DAY.......SIMULATION  DAY OF MONTH         |
|                                           |
|NOTE THAT PARAMETERS ARE NOT               |
|  APPLICABLE IN ALL CASES                  |
+-------------------------------------------+
```

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	AZEILM	SCAANTG	%ILLU	%VIEH	%TCVR	%GCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	6	1	1	30	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.681	0.664	0.708	0.921
2	8	6	1	1	100	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.684	0.663	0.733	0.996
3	8	6	1	1	175	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.691	0.668	0.741	1.017
4	8	6	1	2	30	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.804	0.820	0.886	1.158
5	8	6	1	2	100	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.717	0.710	0.795	1.091
6	8	6	1	2	175	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.700	0.680	0.759	1.049
7	8	6	1	3	30	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.928	0.980	1.070	1.403
8	8	6	1	3	100	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.751	0.759	0.861	1.194
9	8	6	1	3	175	1	23	1	29	6	9	156	0	0	0	0	0	6	27	0.708	0.693	0.778	1.084
10	8	6	1	1	30	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.623	0.628	0.679	0.892
11	8	6	1	1	100	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.620	0.618	0.691	0.947
12	8	6	1	1	175	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.625	0.620	0.696	0.962
13	8	6	1	2	30	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.750	0.790	0.863	1.134
14	8	6	1	2	100	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.657	0.670	0.759	1.049
15	8	6	1	2	175	1	23	1	29	0	9	150	0	0	0	C	0	6	27	0.635	0.635	0.717	0.999
16	8	6	1	3	30	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.878	0.954	1.051	1.386
17	8	6	1	3	100	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.694	0.724	0.830	1.160
18	8	6	1	3	175	1	23	1	29	0	9	150	0	0	0	0	0	6	27	0.645	0.650	0.739	1.038
19	8	6	1	1	30	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.587	0.608	0.667	0.887
20	8	6	1	1	100	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.582	0.597	0.680	0.944
21	8	6	1	1	175	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.587	0.598	0.683	0.959
22	8	6	1	2	30	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.709	0.765	0.846	1.123
23	8	6	1	2	100	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.615	0.644	0.742	1.039
24	8	6	1	2	175	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.595	0.611	0.701	0.991
25	8	6	1	3	30	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.833	0.924	1.030	1.369
26	8	6	1	3	100	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.649	0.693	0.807	1.142
27	8	6	1	3	175	1	23	1	29	6	170	144	0	0	0	0	0	6	27	0.603	0.624	0.721	1.025
28	8	6	1	1	30	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.652	0.641	0.686	0.896
29	8	6	1	1	100	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.653	0.637	0.707	0.963
30	8	6	1	1	175	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.660	0.641	0.713	0.982
31	8	6	1	2	30	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.771	0.793	0.860	1.126
32	8	6	1	2	100	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.684	0.682	0.765	1.053
33	8	6	1	2	175	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.667	0.652	0.730	1.011
34	8	6	1	3	30	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.891	0.947	1.038	1.364
35	8	6	1	3	100	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.716	0.727	0.827	1.150
36	8	6	1	3	175	1	23	1	31	6	24	154	0	0	0	0	0	6	27	0.675	0.664	0.747	1.043
37	8	6	1	1	30	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.600	0.608	0.659	0.868
38	8	6	1	1	100	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.594	0.595	0.666	0.914
39	8	6	1	1	175	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.599	0.595	0.669	0.927
40	8	6	1	2	30	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.722	0.764	0.837	1.103
41	8	6	1	2	100	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.629	0.644	0.730	1.011
42	8	6	1	2	175	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.608	0.609	0.688	0.960
43	8	6	1	3	30	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.847	0.923	1.020	1.347
44	8	6	1	3	100	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.664	0.694	0.797	1.116

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	R O PI TD	O PI OD	SZ UE NN	V IZ EE WN	A RZ FI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	6	1	3	175	1	23	1	31	0	24	148	0	0	0	0	0	6	27	0.617	0.623	0.709	0.997
46	8	6	1	1	30	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.569	0.591	0.649	0.863
47	8	6	1	1	100	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.563	0.577	0.658	0.914
48	8	6	1	1	175	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.567	0.578	0.660	0.926
49	8	6	1	2	30	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.688	0.743	0.822	1.093
50	8	6	1	2	100	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.594	0.622	0.716	1.004
51	8	6	1	2	175	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.574	0.589	0.676	0.955
52	8	6	1	3	30	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.808	0.897	1.001	1.331
53	8	6	1	3	100	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.626	0.667	0.778	1.101
54	8	6	1	3	175	1	23	1	31	6	155	143	0	0	0	0	0	6	27	0.582	0.601	0.694	0.987
55	8	6	1	1	30	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.605	0.576	0.728	0.992
56	8	6	1	1	100	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.608	0.576	0.753	1.067
57	8	6	1	1	175	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.615	0.580	0.761	1.088
58	8	6	1	2	30	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.726	0.731	0.907	1.229
59	8	6	1	2	100	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.641	0.623	0.815	1.162
60	8	6	1	2	175	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.624	0.593	0.779	1.120
61	8	6	1	3	30	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.849	0.889	1.091	1.476
62	8	6	1	3	100	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.675	0.671	0.881	1.265
63	8	6	1	3	175	2	23	1	29	6	9	156	0	0	0	0	0	6	27	0.632	0.606	0.799	1.154
64	8	6	1	1	30	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.547	0.541	0.700	0.962
65	8	6	1	1	100	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.544	0.531	0.712	1.016
66	8	6	1	1	175	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.549	0.533	0.716	1.031
67	8	6	1	2	30	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.673	0.701	0.883	1.205
68	8	6	1	2	100	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.581	0.583	0.779	1.119
69	8	6	1	2	175	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.560	0.548	0.737	1.068
70	8	6	1	3	30	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.800	0.864	1.072	1.457
71	8	6	1	3	100	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.619	0.637	0.851	1.230
72	8	6	1	3	175	2	23	1	29	0	9	150	0	0	0	0	0	6	27	0.570	0.563	0.760	1.108
73	8	6	1	1	30	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.511	0.520	0.688	0.956
74	8	6	1	1	100	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.506	0.510	0.700	1.014
75	8	6	1	1	175	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.511	0.511	0.704	1.029
76	8	6	1	2	30	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.632	0.676	0.867	1.194
77	8	6	1	2	100	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.539	0.557	0.762	1.109
78	8	6	1	2	175	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.519	0.523	0.722	1.060
79	8	6	1	3	30	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.755	0.834	1.051	1.440
80	8	6	1	3	100	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.573	0.605	0.828	1.212
81	8	6	1	3	175	2	23	1	29	6	170	144	0	0	0	0	0	6	27	0.527	0.536	0.741	1.095
82	8	6	1	1	30	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.578	0.555	0.706	0.965
83	8	6	1	1	100	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.579	0.551	0.727	1.032
84	8	6	1	1	175	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.585	0.555	0.733	1.050
85	8	6	1	2	30	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.695	0.705	0.880	1.195
86	8	6	1	2	100	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.610	0.596	0.785	1.122
87	8	6	1	2	175	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.593	0.567	0.750	1.080
88	8	6	1	3	30	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.814	0.858	1.058	1.435

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RO PITO	O PIOD	SZ UENN	V TZ EEWN	A RZ EILM	S CA ANTG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	6	1	3	100	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.641	0.641	0.847	1.220
90	8	6	1	3	175	2	23	1	31	6	24	154	0	0	0	0	0	6	27	0.600	0.578	0.767	1.112
91	8	6	1	1	30	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.526	0.523	0.679	0.936
92	8	6	1	1	100	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.521	0.510	0.686	0.982
93	8	6	1	1	175	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.525	0.510	0.689	0.994
94	8	6	1	2	30	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.647	0.677	0.857	1.171
95	8	6	1	2	100	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.555	0.558	0.750	1.079
96	8	6	1	2	175	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.534	0.524	0.708	1.028
97	8	6	1	3	30	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.770	0.835	1.040	1.417
98	8	6	1	3	100	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.590	0.609	0.817	1.184
99	8	6	1	3	175	2	23	1	31	0	24	148	0	0	0	0	0	6	27	0.543	0.538	0.729	1.065
100	8	6	1	1	30	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.495	0.505	0.669	0.932
101	8	6	1	1	100	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.489	0.492	0.677	0.982
102	8	6	1	1	175	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.493	0.492	0.680	0.994
103	8	6	1	2	30	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.612	0.655	0.843	1.162
104	8	6	1	2	100	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.520	0.536	0.736	1.072
105	8	6	1	2	175	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.500	0.503	0.696	1.024
106	8	6	1	3	30	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.731	0.808	1.021	1.402
107	8	6	1	3	100	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.551	0.581	0.798	1.170
108	8	6	1	3	175	2	23	1	31	6	155	143	0	0	0	0	0	6	27	0.508	0.515	0.714	1.056
109	8	6	1	1	30	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.668	0.654	0.716	0.944
110	8	6	1	1	100	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.671	0.654	0.741	1.019
111	8	6	1	1	175	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.678	0.659	0.749	1.040
112	8	6	1	2	30	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.790	0.811	0.895	1.181
113	8	6	1	2	100	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.704	0.701	0.803	1.114
114	8	6	1	2	175	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.686	0.671	0.767	1.072
115	8	6	1	3	30	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.914	0.970	1.079	1.427
116	8	6	1	3	100	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.738	0.750	0.869	1.217
117	8	6	1	3	175	3	23	1	29	6	9	156	0	0	0	0	0	6	27	0.695	0.684	0.787	1.107
118	8	6	1	1	30	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.610	0.619	0.688	0.915
119	8	6	1	1	100	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.606	0.609	0.700	0.969
120	8	6	1	1	175	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.612	0.611	0.704	0.985
121	8	6	1	2	30	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.736	0.780	0.871	1.157
122	8	6	1	2	100	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.643	0.661	0.767	1.072
123	8	6	1	2	175	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.622	0.626	0.725	1.021
124	8	6	1	3	30	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.864	0.944	1.060	1.409
125	8	6	1	3	100	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.681	0.715	0.839	1.182
126	8	6	1	3	175	3	23	1	29	0	9	150	0	0	0	0	0	6	27	0.632	0.641	0.748	1.061
127	8	6	1	1	30	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.573	0.599	0.676	0.910
128	8	6	1	1	100	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.569	0.588	0.688	0.967
129	8	6	1	1	175	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.573	0.589	0.692	0.982
130	8	6	1	2	30	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.695	0.756	0.854	1.146
131	8	6	1	2	100	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.602	0.635	0.750	1.062
132	8	6	1	2	175	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.582	0.602	0.710	1.013

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPI TD	DPI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MON TH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	6	1	3	30	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.819	0.915	1.038	1.392
134	8	6	1	3	100	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.636	0.684	0.816	1.165
135	8	6	1	3	175	3	23	1	29	6	170	144	0	0	0	0	0	6	27	0.590	0.615	0.729	1.048
136	8	6	1	1	30	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.639	0.632	0.694	0.919
137	8	6	1	1	100	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.640	0.628	0.715	0.985
138	8	6	1	1	175	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.646	0.632	0.721	1.004
139	8	6	1	2	30	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.757	0.783	0.868	1.148
140	8	6	1	2	100	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.671	0.673	0.773	1.076
141	8	6	1	2	175	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.654	0.643	0.738	1.033
142	8	6	1	3	30	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.877	0.938	1.046	1.387
143	8	6	1	3	100	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.703	0.718	0.835	1.173
144	8	6	1	3	175	3	23	1	31	6	24	154	0	0	0	0	0	6	27	0.661	0.655	0.755	1.065
145	8	6	1	1	30	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.587	0.599	0.667	0.890
146	8	6	1	1	100	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.581	0.586	0.674	0.936
147	8	6	1	1	175	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.586	0.586	0.677	0.949
148	8	6	1	2	30	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.709	0.755	0.845	1.125
149	8	6	1	2	100	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.616	0.635	0.738	1.033
150	8	6	1	2	175	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.595	0.600	0.696	0.982
151	8	6	1	3	30	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.833	0.914	1.028	1.370
152	8	6	1	3	100	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.651	0.685	0.806	1.138
153	8	6	1	3	175	3	23	1	31	0	24	148	0	0	0	0	0	6	27	0.604	0.614	0.717	1.019
154	8	6	1	1	30	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.556	0.582	0.657	0.886
155	8	6	1	1	100	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.550	0.568	0.666	0.936
156	8	6	1	1	175	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.554	0.569	0.668	0.948
157	8	6	1	2	30	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.674	0.734	0.831	1.115
158	8	6	1	2	100	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.581	0.613	0.724	1.026
159	8	6	1	2	175	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.561	0.580	0.684	0.978
160	8	6	1	3	30	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.794	0.888	1.009	1.354
161	8	6	1	3	100	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.612	0.658	0.786	1.123
162	8	6	1	3	175	3	23	1	31	6	155	143	0	0	0	0	0	6	27	0.569	0.592	0.702	1.010
163	8	6	1	1	30	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.777	0.706	0.726	0.921
164	8	6	1	1	100	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.775	0.700	0.741	0.977
165	8	6	1	1	175	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.780	0.704	0.747	0.995
166	8	6	1	2	30	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.870	0.833	0.875	1.125
167	8	6	1	2	100	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.798	0.736	0.790	1.056
168	8	6	1	2	175	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.785	0.713	0.761	1.021
169	8	6	1	3	30	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.964	0.962	1.029	1.338
170	8	6	1	3	100	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.822	0.773	0.842	1.142
171	8	6	1	3	175	1	10	1	29	6	9	156	0	0	0	0	0	6	27	0.791	0.723	0.776	1.049
172	8	6	1	1	30	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.686	0.656	0.688	0.887
173	8	6	1	1	100	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.678	0.641	0.691	0.924
174	8	6	1	1	175	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.682	0.642	0.694	0.937
175	8	6	1	2	30	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.781	0.786	0.842	1.096
176	8	6	1	2	100	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.704	0.681	0.745	1.010

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	B R E F	O PI TD	D PI DD	SZ UE NN	V IZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I F W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	6	1	2	175	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.688	0.653	0.711	0.967
178	8	6	1	3	30	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.879	0.919	1.000	1.313
179	8	6	1	3	100	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.730	0.722	0.802	1.102
180	8	6	1	3	175	1	10	1	29	0	9	150	0	0	0	0	0	6	27	0.695	0.665	0.728	0.999
181	8	6	1	1	30	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.630	0.626	0.671	0.878
182	8	6	1	1	100	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.623	0.613	0.676	0.921
183	8	6	1	1	175	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.627	0.614	0.679	0.934
184	8	6	1	2	30	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.723	0.753	0.820	1.082
185	8	6	1	2	100	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.646	0.649	0.726	1.000
186	8	6	1	2	175	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.632	0.623	0.693	0.960
187	8	6	1	3	30	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.817	0.882	0.974	1.295
188	8	6	1	3	100	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.670	0.686	0.778	1.085
189	8	6	1	3	175	1	10	1	29	6	170	144	0	0	0	0	0	6	27	0.638	0.633	0.708	0.988
190	8	6	1	1	30	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.736	0.679	0.702	0.895
191	8	6	1	1	100	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.733	0.670	0.713	0.945
192	8	6	1	1	175	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.737	0.674	0.718	0.961
193	8	6	1	2	30	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.826	0.801	0.847	1.093
194	8	6	1	2	100	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.754	0.704	0.760	1.020
195	8	6	1	2	175	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.742	0.682	0.731	0.985
196	8	6	1	3	30	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.917	0.926	0.996	1.300
197	8	6	1	3	100	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.777	0.739	0.809	1.101
198	8	6	1	3	175	1	10	1	31	6	24	154	0	0	0	0	0	6	27	0.747	0.690	0.745	1.011
199	8	6	1	1	30	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.655	0.632	0.667	0.862
200	8	6	1	1	100	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.647	0.616	0.666	0.893
201	8	6	1	1	175	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.650	0.616	0.668	0.904
202	8	6	1	2	30	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.748	0.759	0.816	1.065
203	8	6	1	2	100	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.671	0.653	0.717	0.974
204	8	6	1	2	175	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.656	0.626	0.683	0.931
205	8	6	1	3	30	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.842	0.887	0.969	1.276
206	8	6	1	3	100	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.696	0.692	0.771	1.061
207	8	6	1	3	175	1	10	1	31	0	24	148	0	0	0	0	0	6	27	0.662	0.636	0.699	0.961
208	8	6	1	1	30	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.609	0.608	0.652	0.855
209	8	6	1	1	100	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.601	0.593	0.655	0.892
210	8	6	1	1	175	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.605	0.594	0.657	0.903
211	8	6	1	2	30	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.699	0.730	0.797	1.053
212	8	6	1	2	100	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.623	0.627	0.701	0.967
213	8	6	1	2	175	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.609	0.602	0.670	0.927
214	8	6	1	3	30	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.790	0.855	0.947	1.260
215	8	6	1	3	100	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.645	0.662	0.751	1.048
216	8	6	1	3	175	1	10	1	31	6	155	143	0	0	0	0	0	6	27	0.614	0.610	0.683	0.953
217	8	6	1	1	30	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.669	0.580	0.757	1.026
218	8	6	1	1	100	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.667	0.574	0.771	1.082
219	8	6	1	1	175	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.672	0.578	0.777	1.100
220	8	6	1	2	30	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.761	0.705	0.906	1.231

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RO PITD	D PIDD	SZ UENN	V IZFEWN	A RZEILM	S CAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	6	1	2	100	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.690	0.610	0.821	1.161
222	8	6	1	2	175	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.678	0.587	0.791	1.126
223	8	6	1	3	30	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.854	0.832	1.060	1.445
224	8	6	1	3	100	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.714	0.647	0.873	1.247
225	8	6	1	3	175	2	10	1	29	6	9	156	0	0	0	0	0	6	27	0.683	0.596	0.806	1.154
226	8	6	1	1	30	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.578	0.530	0.719	0.991
227	8	6	1	1	100	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.571	0.516	0.721	1.028
228	8	6	1	1	175	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.575	0.517	0.725	1.040
229	8	6	1	2	30	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.673	0.659	0.872	1.200
230	8	6	1	2	100	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.597	0.555	0.775	1.113
231	8	6	1	2	175	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.581	0.528	0.741	1.070
232	8	6	1	3	30	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.769	0.790	1.031	1.419
233	8	6	1	3	100	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.623	0.596	0.832	1.206
234	8	6	1	3	175	2	10	1	29	0	9	150	0	0	0	0	0	6	27	0.588	0.539	0.758	1.103
235	8	6	1	1	30	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.522	0.500	0.702	0.982
236	8	6	1	1	100	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.515	0.487	0.707	1.025
237	8	6	1	1	175	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.519	0.488	0.710	1.038
238	8	6	1	2	30	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.614	0.625	0.851	1.187
239	8	6	1	2	100	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.538	0.523	0.756	1.104
240	8	6	1	2	175	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.524	0.497	0.724	1.064
241	8	6	1	3	30	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.707	0.752	1.005	1.401
242	8	6	1	3	100	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.562	0.560	0.809	1.190
243	8	6	1	3	175	2	10	1	29	6	170	144	0	0	0	0	0	6	27	0.530	0.507	0.739	1.092
244	8	6	1	1	30	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.631	0.555	0.732	0.998
245	8	6	1	1	100	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.627	0.547	0.743	1.048
246	8	6	1	1	175	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.632	0.550	0.748	1.063
247	8	6	1	2	30	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.719	0.676	0.877	1.197
248	8	6	1	2	100	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.649	0.581	0.790	1.123
249	8	6	1	2	175	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.637	0.558	0.761	1.087
250	8	6	1	3	30	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.809	0.800	1.027	1.404
251	8	6	1	3	100	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.671	0.615	0.839	1.204
252	8	6	1	3	175	2	10	1	31	6	24	154	0	0	0	0	0	6	27	0.642	0.567	0.775	1.113
253	8	6	1	1	30	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.550	0.509	0.696	0.964
254	8	6	1	1	100	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.542	0.493	0.696	0.994
255	8	6	1	1	175	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.545	0.494	0.698	1.005
256	8	6	1	2	30	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.642	0.634	0.846	1.167
257	8	6	1	2	100	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.566	0.530	0.747	1.076
258	8	6	1	2	175	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.551	0.504	0.713	1.033
259	8	6	1	3	30	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.735	0.761	0.999	1.380
260	8	6	1	3	100	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.590	0.568	0.801	1.163
261	8	6	1	3	175	2	10	1	31	0	24	148	0	0	0	0	0	6	27	0.557	0.514	0.729	1.063
262	8	6	1	1	30	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.504	0.484	0.682	0.957
263	8	6	1	1	100	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.496	0.469	0.684	0.994
264	8	6	1	1	175	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.499	0.470	0.687	1.005

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOTL	DENS	HREF	U PITD	O PIOD	SZ UENN	V IZFEWN	A RZEILM	S CAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	6	1	2	30	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.592	0.605	0.828	1.156
266	8	6	1	2	100	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.518	0.503	0.731	1.069
267	8	6	1	2	175	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.504	0.478	0.706	1.029
268	8	6	1	3	30	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.682	0.729	0.977	1.364
269	8	6	1	3	100	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.540	0.538	0.781	1.151
270	8	6	1	3	175	2	10	1	31	6	155	143	0	0	0	0	0	6	27	0.509	0.487	0.713	1.055
271	8	6	1	1	30	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.758	0.693	0.738	0.956
272	8	6	1	1	100	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.756	0.687	0.753	1.012
273	8	6	1	1	175	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.761	0.691	0.759	1.029
274	8	6	1	2	30	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.850	0.819	0.888	1.160
275	8	6	1	2	100	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.779	0.723	0.802	1.091
276	8	6	1	2	175	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.756	0.700	0.773	1.055
277	8	6	1	3	30	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.944	0.948	1.042	1.373
278	8	6	1	3	100	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.802	0.760	0.854	1.176
279	8	6	1	3	175	3	10	1	29	6	9	156	0	0	0	0	0	6	27	0.772	0.709	0.788	1.084
280	8	6	1	1	30	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.666	0.643	0.700	0.921
281	8	6	1	1	100	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.659	0.628	0.703	0.958
282	8	6	1	1	175	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.663	0.629	0.706	0.971
283	8	6	1	2	30	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.762	0.773	0.854	1.130
284	8	6	1	2	100	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.685	0.668	0.757	1.044
285	8	6	1	2	175	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.669	0.640	0.723	1.001
286	8	6	1	3	30	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.859	0.905	1.012	1.348
287	8	6	1	3	100	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.711	0.709	0.814	1.136
288	8	6	1	3	175	3	10	1	29	0	9	150	0	0	0	0	0	6	27	0.676	0.651	0.740	1.033
289	8	6	1	1	30	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.611	0.613	0.683	0.913
290	8	6	1	1	100	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.604	0.600	0.688	0.955
291	8	6	1	1	175	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.607	0.601	0.691	0.968
292	8	6	1	2	30	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.703	0.740	0.833	1.117
293	8	6	1	2	100	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.627	0.636	0.738	1.035
294	8	6	1	2	175	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.613	0.610	0.705	0.994
295	8	6	1	3	30	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.797	0.868	0.986	1.330
296	8	6	1	3	100	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.651	0.673	0.790	1.120
297	8	6	1	3	175	3	10	1	29	6	170	144	0	0	0	0	0	6	27	0.618	0.620	0.720	1.022
298	8	6	1	1	30	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.717	0.666	0.714	0.929
299	8	6	1	1	100	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.714	0.658	0.725	0.979
300	8	6	1	1	175	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.719	0.661	0.730	0.994
301	8	6	1	2	30	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.807	0.788	0.859	1.127
302	8	6	1	2	100	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.736	0.691	0.772	1.054
303	8	6	1	2	175	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.723	0.669	0.743	1.018
304	8	6	1	3	30	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.898	0.913	1.008	1.334
305	8	6	1	3	100	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.758	0.726	0.821	1.135
306	8	6	1	3	175	3	10	1	31	6	24	154	0	0	0	0	0	6	27	0.728	0.677	0.757	1.045
307	8	6	1	1	30	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.637	0.620	0.679	0.896
308	8	6	1	1	100	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.628	0.603	0.678	0.927

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	O PI TD	O PI OD	SZ UE NN	V IZ EE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V P	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	8	6	1	1	175	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.631	0.603	0.680	0.937
310	8	6	1	2	30	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.729	0.746	0.827	1.099
311	8	6	1	2	100	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.652	0.640	0.729	1.008
312	8	6	1	2	175	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.637	0.613	0.695	0.965
313	8	6	1	3	30	3	10	1	[illegible]	0	24	148	0	0	0	0	0	6	27	0.823	0.874	0.981	1.310
314	8	6	1	3	100	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.677	0.679	0.783	1.095
315	8	6	1	3	175	3	10	1	31	0	24	148	0	0	0	0	0	6	27	0.643	0.624	0.711	0.995
316	8	6	1	1	30	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.590	0.595	0.664	0.889
317	8	6	1	1	100	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.583	0.580	0.666	0.926
318	8	6	1	1	175	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.586	0.581	0.669	0.937
319	8	6	1	2	30	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.680	0.717	0.809	1.087
320	8	6	1	2	100	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.604	0.614	0.713	1.001
321	8	6	1	2	175	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.591	0.589	0.681	0.961
322	8	6	1	3	30	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.771	0.842	0.959	1.294
323	8	6	1	3	100	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.626	0.649	0.762	1.082
324	8	6	1	3	175	3	10	1	31	6	155	143	0	0	0	0	0	6	27	0.596	0.598	0.695	0.987
325	8	6	1	1	30	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.959	0.806	0.784	0.944
326	8	6	1	1	100	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.953	0.796	0.785	0.972
327	8	6	1	1	175	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.956	0.798	0.789	0.983
328	8	6	1	2	30	1	4	1	29	6	9	156	0	0	0	0	0	6	27	1.012	0.887	0.883	1.088
329	8	6	1	2	100	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.965	0.816	0.815	1.023
330	8	6	1	2	175	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.959	0.803	0.797	0.999
331	8	6	1	3	30	1	4	1	29	6	9	156	0	0	0	0	0	6	27	1.067	0.969	0.986	1.238
332	8	6	1	3	100	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.977	0.837	0.846	1.078
333	8	6	1	3	175	1	4	1	29	6	9	156	0	0	0	0	0	6	27	0.961	0.808	0.805	1.017
334	8	6	1	1	30	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.804	0.721	0.722	0.894
335	8	6	1	1	100	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.795	0.705	0.715	0.907
336	8	6	1	1	175	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.797	0.705	0.716	0.915
337	8	6	1	2	30	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.859	0.804	0.825	1.041
338	8	6	1	2	100	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.808	0.727	0.747	0.962
339	8	6	1	2	175	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.800	0.711	0.726	0.933
340	8	6	1	3	30	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.916	0.889	0.930	1.195
341	8	6	1	3	100	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.821	0.750	0.782	1.022
342	8	6	1	3	175	1	4	1	29	0	9	150	0	0	0	0	0	6	27	0.803	0.717	0.736	0.953
343	8	6	1	1	30	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.711	0.670	0.690	0.874
344	8	6	1	1	100	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.704	0.657	0.687	0.894
345	8	6	1	1	175	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.706	0.658	0.689	0.903
346	8	6	1	2	30	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.765	0.751	0.787	1.018
347	8	6	1	2	100	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.716	0.677	0.716	0.945
348	8	6	1	2	175	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.708	0.663	0.697	0.919
349	8	6	1	3	30	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.819	0.833	0.892	1.167
350	8	6	1	3	100	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.727	0.698	0.748	1.001
351	8	6	1	3	175	1	4	1	29	6	170	144	0	0	0	0	0	6	27	0.711	0.668	0.705	0.937
352	8	6	1	1	30	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.895	0.766	0.752	0.914

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

ORIGINAL PAGE IS OF POOR QUALITY

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	OPIDD	SZUENN	VIZEEWN	AZREILM	SCAANTG	%LILU	%VIEW	%TCVR	%GCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
353	8	6	1	1	100	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.889	0.755	0.752	0.938
354	8	6	1	1	175	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.891	0.757	0.755	0.948
355	8	6	1	2	30	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.947	0.845	0.849	1.054
356	8	6	1	2	100	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.900	0.775	0.780	0.987
357	8	6	1	2	175	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.894	0.762	0.762	0.963
358	8	6	1	3	30	1	4	1	31	6	24	154	0	0	0	0	0	6	27	1.000	0.925	0.948	1.199
359	8	6	1	3	100	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.911	0.795	0.810	1.040
360	8	6	1	3	175	1	4	1	31	6	24	154	0	0	0	0	0	6	27	0.896	0.766	0.770	0.980
361	8	6	1	1	30	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.760	0.690	0.696	0.867
362	8	6	1	1	100	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.751	0.674	0.687	0.876
363	8	6	1	1	175	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.752	0.674	0.688	0.883
364	8	6	1	2	30	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.814	0.771	0.796	1.010
365	8	6	1	2	100	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.763	0.695	0.718	0.929
366	8	6	1	2	175	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.755	0.679	0.697	0.900
367	8	6	1	3	30	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.869	0.854	0.898	1.160
368	8	6	1	3	100	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.776	0.717	0.751	0.986
369	8	6	1	3	175	1	4	1	31	0	24	148	0	0	0	0	0	6	27	0.758	0.684	0.706	0.919
370	8	6	1	1	30	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.683	0.648	0.669	0.851
371	8	6	1	1	100	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.676	0.634	0.665	0.868
372	8	6	1	1	175	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.678	0.635	0.666	0.876
373	8	6	1	2	30	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.736	0.727	0.766	0.990
374	8	6	1	2	100	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.687	0.654	0.693	0.916
375	8	6	1	2	175	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.680	0.640	0.674	0.891
376	8	6	1	3	30	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.789	0.607	0.665	1.136
377	8	6	1	3	100	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.699	0.674	0.723	0.969
378	8	6	1	3	175	1	4	1	31	6	155	143	0	0	0	0	0	6	27	0.683	0.644	0.681	0.907
379	8	6	1	1	30	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.808	0.619	0.834	1.117
380	8	6	1	1	100	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.803	0.609	0.835	1.144
381	8	6	1	1	175	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.805	0.611	0.839	1.156
382	8	6	1	2	30	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.861	0.698	0.934	1.262
383	8	6	1	2	100	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.814	0.629	0.865	1.196
384	8	6	1	2	175	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.808	0.616	0.847	1.172
385	8	6	1	3	30	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.914	0.779	1.037	1.413
386	8	6	1	3	100	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.826	0.650	0.897	1.252
387	8	6	1	3	175	2	4	1	29	6	9	156	0	0	0	0	0	6	27	0.810	0.621	0.855	1.190
388	8	6	1	1	30	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.653	0.534	0.772	1.065
389	8	6	1	1	100	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.645	0.519	0.765	1.077
390	8	6	1	1	175	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.646	0.519	0.766	1.085
391	8	6	1	2	30	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.708	0.616	0.875	1.214
392	8	6	1	2	100	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.658	0.541	0.797	1.133
393	8	6	1	2	175	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.649	0.525	0.776	1.104
394	8	6	1	3	30	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.764	0.700	0.981	1.368
395	8	6	1	3	100	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.671	0.564	0.832	1.193
396	8	6	1	3	175	2	4	1	29	0	9	150	0	0	0	0	0	6	27	0.652	0.531	0.786	1.124

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:51:42 05-14-76

CASE	ID	BASE	SPEC	SOIL	DENS	BREF	RU PITD	O PIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
397	8	6	1	1	30	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.560	0.483	0.740	1.045
398	8	6	1	1	100	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.553	0.470	0.737	1.065
399	8	6	1	1	175	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.555	0.471	0.739	1.074
400	8	6	1	2	30	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.613	0.563	0.840	1.190
401	8	6	1	2	100	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.565	0.490	0.767	1.117
402	8	6	1	2	175	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.558	0.476	0.747	1.091
403	8	6	1	3	30	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.667	0.644	0.943	1.341
404	8	6	1	3	100	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.576	0.511	0.798	1.173
405	8	6	1	3	175	2	4	1	29	6	170	144	0	0	0	0	0	6	27	0.560	0.481	0.755	1.108
406	8	6	1	1	30	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.747	0.583	0.801	1.083
407	8	6	1	1	100	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.742	0.573	0.801	1.107
408	8	6	1	1	175	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.744	0.574	0.804	1.117
409	8	6	1	2	30	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.798	0.660	0.898	1.224
410	8	6	1	2	100	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.752	0.592	0.829	1.156
411	8	6	1	2	175	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.746	0.579	0.811	1.132
412	8	6	1	3	30	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.851	0.739	0.998	1.371
413	8	6	1	3	100	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.764	0.611	0.859	1.209
414	8	6	1	3	175	2	4	1	31	6	24	154	0	0	0	0	0	6	27	0.748	0.583	0.819	1.149
415	8	6	1	1	30	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.613	0.508	0.745	1.034
416	8	6	1	1	100	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.604	0.492	0.736	1.043
417	8	6	1	1	175	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.605	0.492	0.737	1.050
418	8	6	1	2	30	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.666	0.588	0.845	1.179
419	8	6	1	2	100	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.616	0.513	0.767	1.097
420	8	6	1	2	175	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.608	0.497	0.746	1.067
421	8	6	1	3	30	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.720	0.669	0.948	1.329
422	8	6	1	3	100	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.628	0.534	0.800	1.154
423	8	6	1	3	175	2	4	1	31	0	24	148	0	0	0	0	0	6	27	0.611	0.502	0.755	1.086
424	8	6	1	1	30	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.536	0.465	0.718	1.018
425	8	6	1	1	100	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.529	0.452	0.714	1.035
426	8	6	1	1	175	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.531	0.453	0.716	1.043
427	8	6	1	2	30	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.587	0.543	0.815	1.159
428	8	6	1	2	100	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.540	0.471	0.742	1.084
429	8	6	1	2	175	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.533	0.457	0.723	1.058
430	8	6	1	3	30	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.640	0.621	0.915	1.306
431	8	6	1	3	100	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.551	0.490	0.772	1.137
432	8	6	1	3	175	2	4	1	31	6	155	143	0	0	0	0	0	6	27	0.535	0.461	0.731	1.075
433	8	6	1	1	30	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.932	0.787	0.803	1.002
434	8	6	1	1	100	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.926	0.777	0.804	1.029
435	8	6	1	1	175	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.929	0.779	0.808	1.041
436	8	6	1	2	30	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.985	0.867	0.902	1.146
437	8	6	1	2	100	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.938	0.797	0.834	1.080
438	8	6	1	2	175	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.932	0.783	0.816	1.057
439	8	6	1	3	30	3	4	1	29	6	9	156	0	0	0	0	0	6	27	1.040	0.949	1.005	1.296
440	8	6	1	3	100	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.950	0.818	0.865	1.136

CASE	ID	BASE	SPEC	SOIL	DENS	REF	OPTD	OPDD	SUN ZEN	VIEW ZEN	AZ REL	SCAN ANG	%ILLU	%VIEW	%TCVR	%GCVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
441	8	6	1	3	175	3	4	1	29	6	9	156	0	0	0	0	0	6	27	0.934	0.788	0.824	1.074
442	8	6	1	1	30	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.777	0.702	0.741	0.951
443	8	6	1	1	100	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.768	0.685	0.734	0.963
444	8	6	1	1	175	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.770	0.686	0.736	0.971
445	8	6	1	2	30	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.832	0.785	0.344	1.099
446	8	6	1	2	100	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.781	0.708	0.767	1.019
447	8	6	1	2	175	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.773	0.692	0.745	0.990
448	8	6	1	3	30	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.889	0.869	0.949	1.252
449	8	6	1	3	100	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.794	0.731	0.801	1.079
450	8	6	1	3	175	3	4	1	29	0	9	150	0	0	0	0	0	6	27	0.776	0.697	0.755	1.010
451	8	6	1	1	30	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.684	0.651	0.709	0.931
452	8	6	1	1	100	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.677	0.638	0.706	0.951
453	8	6	1	1	175	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.679	0.639	0.708	0.960
454	8	6	1	2	30	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.737	0.732	0.808	1.075
455	8	6	1	2	100	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.689	0.658	0.735	1.002
456	8	6	1	2	175	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.681	0.644	0.716	0.976
457	8	6	1	3	30	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.792	0.814	0.911	1.225
458	8	6	1	3	100	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.700	0.679	0.767	1.058
459	8	6	1	3	175	3	4	1	29	6	170	144	0	0	0	0	0	6	27	0.684	0.648	0.724	0.994
460	8	6	1	1	30	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.868	0.748	0.771	0.971
461	8	6	1	1	100	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.863	0.737	0.771	0.994
462	8	6	1	1	175	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.865	0.738	0.774	1.005
463	8	6	1	2	30	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.920	0.826	0.868	1.111
464	8	6	1	2	100	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.874	0.756	0.799	1.043
465	8	6	1	2	175	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.867	0.743	0.781	1.020
466	8	6	1	3	30	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.973	0.905	0.968	1.257
467	8	6	1	3	100	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.885	0.776	0.829	1.096
468	8	6	1	3	175	3	4	1	31	6	24	154	0	0	0	0	0	6	27	0.869	0.747	0.789	1.036
469	8	6	1	1	30	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.733	0.672	0.715	0.923
470	8	6	1	1	100	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.724	0.655	0.706	0.932
471	8	6	1	1	175	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.726	0.655	0.707	0.939
472	8	6	1	2	30	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.787	0.752	0.815	1.066
473	8	6	1	2	100	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.737	0.676	0.737	0.985
474	8	6	1	2	175	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.729	0.660	0.716	0.956
475	8	6	1	3	30	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.842	0.835	0.917	1.216
476	8	6	1	3	100	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.749	0.698	0.770	1.042
477	8	6	1	3	175	3	4	1	31	0	24	148	0	0	0	0	0	6	27	0.731	0.665	0.725	0.975
478	8	6	1	1	30	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.657	0.630	0.688	0.906
479	8	6	1	1	100	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.650	0.616	0.683	0.923
480	8	6	1	1	175	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.652	0.616	0.685	0.931
481	8	6	1	2	30	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.709	0.708	0.785	1.046
482	8	6	1	2	100	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.661	0.635	0.712	0.972
483	8	6	1	2	175	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.654	0.621	0.692	0.946
484	8	6	1	3	30	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.762	0.787	0.885	1.192

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *****   13:51:42 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A RZ FI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	6	1	3	100	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.672	0.655	0.742	1.025
486	8	6	1	3	175	3	4	1	31	6	155	143	0	0	0	0	0	6	27	0.656	0.625	0.700	0.963

APPENDIX I

LANDSAT INBAND RADIANCES

HARVESTED WHEAT CANOPY (NO. 7)

Pages 169-184

***** ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN (ERIM) ***** 13:52:46 05-14-76

P.O. BOX 618, ANN ARBOR, MICHIGAN 48107

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*                                                                      *
*  OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *
*                                                                      *
*                 LANDSAT           INBAND RADIANCES                   *
*                                                                      *
************************************************************************
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WHEAT FIELD RADIANCE SIMULATIONS FOR ONE OF SEVEN STAGES OF GROWTH
AND VARIED ATMOSPHERIC AND VIEWING CONDITIONS
*** HARVESTED STAGE, EARLY JULY ***

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

SPECTRAL SYSTEM SIMULATION MODEL CALCULATIONS PROVIDE SYNTHETIC INBAND DATA VALUES FOR A SENSOR WITH SPECIFIED CHARACTERISTICS AND LOCATIONS, FROM SURFACE REFLECTORS, FOR WHICH BIDIRECTIONAL REFLECTANCE CHARACTERISTICS ARE COMPUTED, AND WHICH ARE VIEWED THROUGH HOMOGENEOUS, ISOTROPIC ATMOSPHERIC MEDIA OF SPECIFIED CHARACTERISTICS UNDER SPECIFIED SOLAR ILLUMINATION GEOMETRIES.

EFFECTIVE INBAND DATA VALUES CAN BE CALCULATED FOR EACH OF THE FOLLOWING THREE GROUPS OF QUANTITIES:

GROUP	QUANTITY SIMULATED	UNIT OF MEASURE	OUTPUT ID
ATMOSPHERE	(1)DIRECT IRRADIANCE (INBAND)	MILLIWATTS/SQCM	1
	(2)DIFFUSE IRRADIANCE (INBAND)	MW/SQCM	2
	(3)PATH TRANSMITTANCE (INBAND)	DIMENSIONLESS	3
	(4)PATH RADIANCE (INBAND)	MW/SQCM-STER	4
REFLECTANCE	(1)BIDIRECTIONAL (INBAND) REFLECTANCE (RELATIVE TO THAT OF A PERFECT LAMBERTIAN SURFACE)	DIMENSIONLESS	5
	(2)DIFFUSE REFLECTANCE (INBAND)	DIMENSIONLESS	6
SCANNER SYSTEM SIMULATION	(1)RADIANCE (INBAND)	MW/SQCM-STER	
	(A) BIDIRECTIONAL ONLY		7
	(B) DIFFUSE INCLUDED		8
	(2)SIGNAL AMPLITUDE (BAND CALIBRATION FACTORS GIVE COUNTS/UNIT-RADIANCE)	DIGITAL COUNT	9

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

*** SIMULATED SPECTRAL RESPONSE FOR.... LANDSAT

*** NUMBER OF SPECTRAL BANDS........... 4

*** SPECTRAL BAND LIMITS AND CALIBRATION:

BAND	NOMINAL	EXTREMES		CALIBRATION FACTORS
1	0.500 TO 0.600	0.460 TO 0.640	MICROMETERS	1.00000
2	0.600 TO 0.700	0.590 TO 0.760		1.00000
3	0.700 TO 0.800	0.660 TO 0.920		1.00000
4	0.800 TO 1.100	0.790 TO 1.100		1.00000

*** MINIMUM SPECTRAL INTERVAL..........0.010 MICROMETERS

*** DEFINITION OF ATMOSPHERIC AND CANOPY PARAMETERS

CANOPY PARAMETERS

BASE CANOPY ('BASE')

1 WHEAT, EMERGENT MID NOV
2 WHEAT, JOINTING MID APR
3 WHEAT, PRE-HEAD MID MAY
4 WHEAT, POST-HEAD END MAY
5 WHEAT, SENESCING MID JUN
6 WHEAT, RIPE END JUN
7 WHEAT, HARVESTED EARLY JUL

SPECTRAL PROPERTIES ('SPEC')

1 ERIM 1975 MSHTS

SOIL REFLECTANCE ('SOIL')

1 CONDIT M - SIGMA
2 CONDIT MEAN SOIL
3 CONDIT M + SIGMA

DENSITY MULTIPLIER

<100 SPARSE
100 BASE
>100 DENSE

ATMOSPHERIC PARAMETERS

BACKGROUND REFLECTANCE ('BREF')

1 BARE SOIL (SOIL CLASS 2)
2 GREEN VEGETATION
3 LIGHT SOIL, HARVESTED
BROWN VEGETATION

OPTICAL THICKNESS ('OPT ID')

SPECTRAL CHARACTERISTICS FOR STANDARD ATMOSPHERES, LABELED BY HORIZONTAL VISUAL RANGE (KM):

4 HAZY
10 MODERATE HAZE
23 CLEAR

OPTICAL DEPTH ('OPD ID')

1 TOP OF THE ATMOSPHERE

LATITUDE ('LAT')

NOT CODED; SUN ZENITH ANGLES ARE:
FOR 38N: 61,38,31,29,28,29,29 DEG
FOR 46N: 67,42,34,31,31,31,31 DEG
EACH FOR THE 7 BASES RESPECTIVELY
(SUN ZEN = 57 IS THE DIFFUSE CASE)

VALUES FOR THE FOLLOWING CANOPY PARAMETERS ARE NOT INCLUDED:
%ILLU,%VIEW,%TCVR,%GCVR

KEY TO OUTPUT PARAMETERS

LABEL	DESCRIPTION
CASE	SEQUENTIAL CASE NUMBER
ID	SIMULATION TYPE (SEE PAGE 2)
BASE	CANOPY TYPE AND STRUCTURE
SPEC	SPECTRAL PROPERTY CLASS
SOIL	SOIL REFLECTANCE CLASS
DENS	PERCENT OF BASE DENSITY
BREF	BACKGROUND REFLECTANCE CLASS
OPT ID	OPTICAL THICKNESS CLASS
OPD ID	OPTICAL DEPTH CLASS
SUN ZEN	SOLAR ZENITH ANGLE
VIEW ZEN	VIEW ZENITH ANGLE
REL AZIM	RELATIVE AZIMUTH ANGLE
SCAT ANG	SCATTERING ANGLE
% ILLU	PERCENT OF SOIL ILLUMINATED
% VIEW	PER CENT OF SOIL VIEWED
% TCOVR	CANOPY PCT COVER, TOTAL
% GCOVR	CANOPY PCT COVER, GREEN LEAF
LAT	SIMULATION LATITUDE OF VIEW
MONTH	SIMULATION MONTH OF YEAR
DAY	SIMULATION DAY OF MONTH

NOTE THAT PARAMETERS ARE NOT APPLICABLE IN ALL CASES

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
1	8	7	1	1	50	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.672	0.656	0.690	0.889
2	8	7	1	1	100	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.669	0.655	0.706	0.935
3	8	7	1	1	200	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.665	0.654	0.731	1.010
4	8	7	1	2	50	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.831	0.853	0.908	1.169
5	8	7	1	2	100	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.789	0.810	0.885	1.175
6	8	7	1	2	200	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.734	0.749	0.849	1.183
7	8	7	1	3	50	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.992	1.053	1.129	1.457
8	8	7	1	3	100	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.911	0.969	1.069	1.426
9	8	7	1	3	200	1	23	1	29	6	10	155	0	0	0	0	0	7	5	0.804	0.846	0.972	1.368
10	8	7	1	1	50	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.616	0.624	0.667	0.867
11	8	7	1	1	100	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.610	0.620	0.677	0.904
12	8	7	1	1	200	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.603	0.613	0.692	0.964
13	8	7	1	2	50	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.778	0.825	0.887	1.151
14	8	7	1	2	100	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.735	0.780	0.860	1.150
15	8	7	1	2	200	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.676	0.713	0.817	1.145
16	8	7	1	3	50	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.942	1.027	1.112	1.442
17	8	7	1	3	100	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.861	0.943	1.050	1.407
18	8	7	1	3	200	1	23	1	29	0	10	150	0	0	0	0	0	7	5	0.751	0.817	0.947	1.338
19	8	7	1	1	50	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.582	0.606	0.655	0.862
20	8	7	1	1	100	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.576	0.601	0.667	0.901
21	8	7	1	1	200	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.568	0.594	0.684	0.968
22	8	7	1	2	50	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.741	0.803	0.873	1.142
23	8	7	1	2	100	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.696	0.756	0.845	1.142
24	8	7	1	2	200	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.637	0.689	0.803	1.141
25	8	7	1	3	50	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.902	1.002	1.094	1.429
26	8	7	1	3	100	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.819	0.914	1.030	1.393
27	8	7	1	3	200	1	23	1	29	6	169	144	0	0	0	0	0	7	5	0.707	0.786	0.926	1.326
28	8	7	1	1	50	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.643	0.634	0.669	0.866
29	8	7	1	1	100	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.639	0.631	0.684	0.909
30	8	7	1	1	200	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.634	0.629	0.706	0.980
31	8	7	1	2	50	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.798	0.826	0.881	1.139
32	8	7	1	2	100	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.755	0.782	0.857	1.142
33	8	7	1	2	200	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.700	0.719	0.819	1.147
34	8	7	1	3	50	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.954	1.020	1.097	1.419
35	8	7	1	3	100	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.873	0.935	1.036	1.386
36	8	7	1	3	200	1	23	1	31	6	24	153	0	0	0	0	0	7	5	0.766	0.812	0.938	1.325
37	8	7	1	1	50	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.595	0.606	0.648	0.845
38	8	7	1	1	100	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.589	0.600	0.657	0.879
39	8	7	1	1	200	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.580	0.591	0.670	0.935
40	8	7	1	2	50	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.753	0.801	0.863	1.122
41	8	7	1	2	100	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.709	0.755	0.835	1.118
42	8	7	1	2	200	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.650	0.687	0.789	1.109
43	8	7	1	3	50	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.912	0.998	1.081	1.405
44	8	7	1	3	100	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.831	0.912	1.018	1.367

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL *****   13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTO	OPIDD	SZUENN	VIEEWN	ARZEILM	SCANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
45	8	7	1	3	200	1	23	1	31	0	24	148	0	0	0	0	0	7	5	0.722	0.786	0.914	1.295
46	8	7	1	1	50	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.565	0.589	0.638	0.840
47	8	7	1	1	100	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.558	0.583	0.648	0.877
48	8	7	1	1	200	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.549	0.575	0.663	0.940
49	8	7	1	2	50	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.720	0.781	0.850	1.114
50	8	7	1	2	100	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.674	0.733	0.821	1.111
51	8	7	1	2	200	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.615	0.666	0.777	1.107
52	8	7	1	3	50	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.876	0.975	1.066	1.393
53	8	7	1	3	100	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.792	0.886	1.000	1.354
54	8	7	1	3	200	1	23	1	31	6	155	142	0	0	0	0	0	7	5	0.682	0.758	0.895	1.285
55	8	7	1	1	50	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.596	0.569	0.710	0.959
56	8	7	1	1	100	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.593	0.568	0.726	1.005
57	8	7	1	1	200	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.589	0.567	0.751	1.080
58	8	7	1	2	50	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.754	0.764	0.928	1.240
59	8	7	1	2	100	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.712	0.722	0.906	1.246
60	8	7	1	2	200	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.658	0.661	0.869	1.254
61	8	7	1	3	50	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.913	0.961	1.150	1.529
62	8	7	1	3	100	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.834	0.878	1.090	1.498
63	8	7	1	3	200	2	23	1	29	6	10	155	0	0	0	0	0	7	5	0.728	0.758	0.993	1.439
64	8	7	1	1	50	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.540	0.537	0.687	0.937
65	8	7	1	1	100	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.535	0.533	0.697	0.973
66	8	7	1	1	200	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.528	0.526	0.713	1.033
67	8	7	1	2	50	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.701	0.736	0.908	1.222
68	8	7	1	2	100	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.658	0.691	0.881	1.220
69	8	7	1	2	200	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.601	0.626	0.837	1.215
70	8	7	1	3	50	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.863	0.936	1.133	1.514
71	8	7	1	3	100	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.783	0.853	1.070	1.478
72	8	7	1	3	200	2	23	1	29	0	10	150	0	0	0	0	0	7	5	0.675	0.729	0.968	1.409
73	8	7	1	1	50	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.506	0.518	0.676	0.931
74	8	7	1	1	100	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.500	0.513	0.687	0.971
75	8	7	1	1	200	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.493	0.507	0.705	1.038
76	8	7	1	2	50	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.664	0.714	0.894	1.213
77	8	7	1	2	100	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.620	0.667	0.866	1.212
78	8	7	1	2	200	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.561	0.601	0.823	1.211
79	8	7	1	3	50	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.823	0.911	[illegible].115	1.501
80	8	7	1	3	10[illegible]	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.741	0.824	1.051	1.464
81	8	7	1	3	200	2	23	1	29	6	169	144	0	0	0	0	0	7	5	0.631	0.698	0.947	1.396
82	8	7	1	1	50	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.569	0.548	0.689	0.934
83	8	7	1	1	100	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.565	0.546	0.704	0.977
84	8	7	1	1	200	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.560	0.544	0.725	1.049
85	8	7	1	2	50	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.722	0.738	0.902	1.208
86	8	7	1	2	100	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.680	0.695	0.877	1.212
87	8	7	1	2	200	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.625	0.634	0.839	1.216
88	8	7	1	3	50	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.876	0.930	1.118	1.489

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS		VIEW GEOMETRY					CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ FE WN	A RZ EI LH	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
89	8	7	1	3	100	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.797	0.847	1.056	1.456
90	8	7	1	3	200	2	23	1	31	6	24	153	0	0	0	0	0	7	5	0.692	0.726	0.958	1.394
91	8	7	1	1	50	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.522	0.521	0.668	0.913
92	8	7	1	1	100	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.515	0.515	0.676	0.946
93	8	7	1	1	200	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.507	0.507	0.689	1.002
94	8	7	1	2	50	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.677	0.714	0.883	1.191
95	8	7	1	2	100	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.634	0.668	0.855	1.186
96	8	7	1	2	200	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.577	0.602	0.809	1.178
97	8	7	1	3	50	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.835	0.909	1.102	1.475
98	8	7	1	3	100	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.755	0.824	1.038	1.436
99	8	7	1	3	200	2	23	1	31	0	24	148	0	0	0	0	0	7	5	0.648	0.700	0.934	1.364
100	8	7	1	1	50	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.491	0.503	0.658	0.908
101	8	7	1	1	100	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.484	0.498	0.668	0.945
102	8	7	1	1	200	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.475	0.490	0.683	1.008
103	8	7	1	2	50	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.644	0.693	0.870	1.183
104	8	7	1	2	100	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.599	0.646	0.841	1.180
105	8	7	1	2	200	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.541	0.580	0.797	1.176
106	8	7	1	3	50	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.799	0.885	1.086	1.464
107	8	7	1	3	100	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.716	0.798	1.020	1.424
108	8	7	1	3	200	2	23	1	31	6	155	142	0	0	0	0	0	7	5	0.607	0.672	0.916	1.354
109	8	7	1	1	50	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.659	0.647	0.698	0.911
110	8	7	1	1	100	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.655	0.646	0.714	0.957
111	8	7	1	1	200	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.651	0.645	0.739	1.033
112	8	7	1	2	50	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.818	0.844	0.916	1.192
113	8	7	1	2	100	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.776	0.801	0.893	1.198
114	8	7	1	2	200	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.720	0.740	0.857	1.206
115	8	7	1	3	50	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.978	1.043	1.138	1.480
116	8	7	1	3	100	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.898	0.959	1.078	1.450
117	8	7	1	3	200	3	23	1	29	6	10	155	0	0	0	0	0	7	5	0.791	0.837	0.981	1.391
118	8	7	1	1	50	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.602	0.615	0.675	0.890
119	8	7	1	1	100	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.597	0.610	0.685	0.926
120	8	7	1	1	200	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.589	0.604	0.701	0.986
121	8	7	1	2	50	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.764	0.816	0.896	1.174
122	8	7	1	2	100	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.721	0.770	0.869	1.173
123	8	7	1	2	200	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.663	0.704	0.825	1.168
124	8	7	1	3	50	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.928	1.018	1.120	1.465
125	8	7	1	3	100	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.847	0.933	1.058	1.430
126	8	7	1	3	200	3	23	1	29	0	10	150	0	0	0	0	0	7	5	0.738	0.807	0.956	1.361
127	8	7	1	1	50	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.569	0.596	0.663	0.884
128	8	7	1	1	100	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.562	0.592	0.675	0.924
129	8	7	1	1	200	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.555	0.585	0.693	0.991
130	8	7	1	2	50	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.726	0.794	0.881	1.165
131	8	7	1	2	100	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.683	0.747	0.850	1.165
132	8	7	1	2	200	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.624	0.680	0.811	1.164

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPTD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
133	8	7	1	3	50	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.888	0.993	1.103	1.453
134	8	7	1	3	100	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.805	0.905	1.038	1.416
135	8	7	1	3	200	3	23	1	29	6	169	144	0	0	0	0	0	7	5	0.694	0.777	0.935	1.349
136	8	7	1	1	50	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.630	0.625	0.677	0.888
137	8	7	1	1	100	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.626	0.622	0.692	0.931
138	8	7	1	1	200	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.621	0.620	0.714	1.002
139	8	7	1	2	50	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.784	0.816	0.890	1.161
140	8	7	1	2	100	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.742	0.773	0.865	1.165
141	8	7	1	2	200	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.686	0.710	0.827	1.169
142	8	7	1	3	50	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.940	1.010	1.105	1.442
143	8	7	1	3	100	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.860	0.925	1.044	1.409
144	8	7	1	3	200	3	23	1	31	6	24	153	0	0	0	0	0	7	5	0.753	0.803	0.946	1.347
145	8	7	1	1	50	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.582	0.597	0.656	0.867
146	8	7	1	1	100	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.575	0.591	0.665	0.901
147	8	7	1	1	200	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.567	0.582	0.678	0.957
148	8	7	1	2	50	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.739	0.792	0.871	1.144
149	8	7	1	2	100	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.696	0.746	0.843	1.140
150	8	7	1	2	200	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.637	0.679	0.797	1.131
151	8	7	1	3	50	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.898	0.988	1.090	1.428
152	8	7	1	3	100	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.818	0.903	1.026	1.389
153	8	7	1	3	200	3	23	1	31	0	24	148	0	0	0	0	0	7	5	0.709	0.777	0.922	1.317
154	8	7	1	1	50	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.552	0.580	0.646	0.862
155	8	7	1	1	100	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.545	0.574	0.656	0.899
156	8	7	1	1	200	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.536	0.566	0.671	0.962
157	8	7	1	2	50	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.706	0.772	0.858	1.136
158	8	7	1	2	100	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.661	0.724	0.829	1.133
159	8	7	1	2	200	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.602	0.657	0.785	1.129
160	8	7	1	3	50	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.862	0.965	1.074	1.416
161	8	7	1	3	100	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.779	0.877	1.008	1.377
162	8	7	1	3	200	3	23	1	31	6	155	142	0	0	0	0	0	7	5	0.669	0.749	0.904	1.307
163	8	7	1	1	50	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.768	0.701	0.713	0.896
164	8	7	1	1	100	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.763	0.698	0.724	0.933
165	8	7	1	1	200	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.757	0.694	0.742	0.996
166	8	7	1	2	50	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.891	0.863	0.898	1.141
167	8	7	1	2	100	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.854	0.823	0.870	1.142
168	8	7	1	2	200	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.807	0.768	0.839	1.144
169	8	7	1	3	50	1	10	1	29	6	10	155	0	0	0	0	0	7	5	1.015	1.026	1.085	1.392
170	8	7	1	3	100	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.947	0.951	1.028	1.359
171	8	7	1	3	200	1	10	1	29	6	10	155	0	0	0	0	0	7	5	0.859	0.845	0.941	1.302
172	8	7	1	1	50	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.677	0.653	0.679	0.868
173	8	7	1	1	100	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.670	0.646	0.685	0.897
174	8	7	1	1	200	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.661	0.637	0.695	0.945
175	8	7	1	2	50	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.802	0.818	0.867	1.116
176	8	7	1	2	100	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.764	0.775	0.839	1.110

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	REF	RO PITD	D PIDD	SZ UENN	VIZ FEWN	ARZ EILM	SCA ANTG	I %L LU	V %I EW	T %C VR	G %C VR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
177	8	7	1	2	200	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.715	0.716	0.797	1.100
178	8	7	1	3	50	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.929	0.984	1.057	1.370
179	8	7	1	3	100	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.860	0.907	0.998	1.333
180	8	7	1	3	200	1	10	1	29	0	10	150	0	0	0	0	0	7	5	0.770	0.797	0.904	1.266
181	8	7	1	1	50	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.625	0.625	0.662	0.859
182	8	7	1	1	100	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.619	0.619	0.670	0.891
183	8	7	1	1	200	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.610	0.611	0.683	0.947
184	8	7	1	2	50	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.749	0.787	0.847	1.104
185	8	7	1	2	100	1	[illegible]	1	29	6	169	144	0	0	0	0	0	7	5	0.710	0.744	0.820	1.100
186	8	7	1	2	200	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.661	0.686	0.780	1.096
187	8	7	1	3	50	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.873	0.950	1.034	1.355
188	8	7	1	3	100	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.803	0.872	0.974	1.317
189	8	7	1	3	200	1	10	1	29	6	169	144	0	0	0	0	0	7	5	0.712	0.762	0.882	1.253
190	8	7	1	1	50	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.726	0.673	0.689	0.871
191	8	7	1	1	100	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.720	0.669	0.699	0.906
192	8	7	1	1	200	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.714	0.663	0.715	0.966
193	8	7	1	2	50	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.845	0.831	0.869	1.110
194	8	7	1	2	100	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.809	0.790	0.844	1.109
195	8	7	1	2	200	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.762	0.735	0.808	1.109
196	8	7	1	3	50	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.966	0.990	1.052	1.354
197	8	7	1	3	100	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.898	0.914	0.990	1.320
198	8	7	1	3	200	1	10	1	31	6	24	153	0	0	0	0	0	7	5	0.811	0.808	0.906	1.261
199	8	7	1	1	50	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.651	0.632	0.659	0.845
200	8	7	1	1	100	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.643	0.624	0.664	0.872
201	8	7	1	1	200	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.634	0.613	0.671	0.917
202	8	7	1	2	50	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.773	0.792	0.842	1.087
203	8	7	1	2	100	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.735	0.749	0.813	1.079
204	8	7	1	2	200	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.685	0.690	0.770	1.066
205	8	7	1	3	50	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.896	0.954	1.027	1.335
206	8	7	1	3	100	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.627	0.877	0.967	1.295
207	8	7	1	3	200	1	10	1	31	0	24	148	0	0	0	0	0	7	5	0.738	0.768	0.873	1.226
208	8	7	1	1	50	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.604	0.607	0.644	0.837
209	8	7	1	1	100	1	10	1	[illegible]	6	155	142	0	0	0	0	0	7	5	0.597	0.600	0.651	0.868
210	8	7	1	1	200	1	10	1	[illegible]	6	155	142	0	0	0	0	0	7	5	0.588	0.591	0.662	0.920
211	8	7	1	2	50	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.724	0.764	0.824	1.076
212	8	7	1	2	100	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.685	0.721	0.796	1.070
213	8	7	1	2	200	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.637	0.662	0.755	1.063
214	8	7	1	3	50	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.845	0.923	1.007	1.320
215	8	7	1	3	100	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.775	0.845	0.946	1.281
216	8	7	1	3	200	1	10	1	31	6	155	142	0	0	0	0	0	7	5	0.686	0.736	0.853	1.216
217	8	7	1	1	50	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.660	0.575	0.743	1.000
218	8	7	1	1	100	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.655	0.572	0.754	1.038
219	8	7	1	1	200	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.650	0.568	0.772	1.101
220	8	7	1	2	50	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.782	0.735	0.928	1.247

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
221	8	7	1	2	100	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.746	0.696	0.905	1.247
222	8	7	1	2	200	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.700	0.642	0.870	1.250
223	8	7	1	3	50	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.905	0.897	1.116	1.499
224	8	7	1	3	100	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.837	0.822	1.059	1.466
225	8	7	1	3	200	2	10	1	29	6	10	155	0	0	0	0	0	7	5	0.751	0.718	0.971	1.408
226	8	7	1	1	50	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.570	0.528	0.710	0.971
227	8	7	1	1	100	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.563	0.521	0.715	1.000
228	8	7	1	1	200	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.555	0.512	0.725	1.049
229	8	7	1	2	50	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.694	0.690	0.897	1.221
230	8	7	1	2	100	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.657	0.649	0.870	1.215
231	8	7	1	2	200	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.608	0.591	0.828	1.204
232	8	7	1	3	50	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.819	0.854	1.088	1.477
233	8	7	1	3	100	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.751	0.779	1.029	1.438
234	8	7	1	3	200	2	10	1	29	0	10	150	0	0	0	0	0	7	5	0.663	0.671	0.935	1.370
235	8	7	1	1	50	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.518	0.499	0.693	0.962
236	8	7	1	1	100	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.511	0.493	0.700	0.995
237	8	7	1	1	200	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.504	0.486	0.713	1.051
238	8	7	1	2	50	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.640	0.659	0.878	1.209
239	8	7	1	2	100	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.602	0.617	0.850	1.205
240	8	7	1	2	200	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.553	0.560	0.811	1.200
241	8	7	1	3	50	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.763	0.821	1.066	1.461
242	8	7	1	3	100	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.693	0.744	1.005	1.423
243	8	7	1	3	200	2	10	1	29	6	169	144	0	0	0	0	0	7	5	0.604	0.635	0.912	1.359
244	8	7	1	1	50	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.621	0.550	0.719	0.973
245	8	7	1	1	100	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.615	0.546	0.729	1.008
246	8	7	1	1	200	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.609	0.541	0.744	1.068
247	8	7	1	2	50	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.739	0.706	0.899	1.213
248	8	7	1	2	100	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.703	0.666	0.874	1.212
249	8	7	1	2	200	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.657	0.612	0.838	1.211
250	8	7	1	3	50	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.858	0.863	1.082	1.459
251	8	7	1	3	100	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.791	0.788	1.025	1.424
252	8	7	1	3	200	2	10	1	31	6	24	153	0	0	0	0	0	7	5	0.706	0.684	0.936	1.364
253	8	7	1	1	50	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.546	0.509	0.689	0.946
254	8	7	1	1	100	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.539	0.502	0.693	0.973
255	8	7	1	1	200	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.530	0.492	0.701	1.018
256	8	7	1	2	50	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.667	0.667	0.872	1.190
257	8	7	1	2	100	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.629	0.626	0.843	1.181
258	8	7	1	2	200	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.581	0.567	0.800	1.168
259	8	7	1	3	50	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.788	0.827	1.058	1.439
260	8	7	1	3	100	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.721	0.752	0.997	1.398
261	8	7	1	3	200	2	10	1	31	0	24	148	0	0	0	0	0	7	5	0.633	0.644	0.903	1.328
262	8	7	1	1	50	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.499	0.484	0.674	0.938
263	8	7	1	1	100	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.492	0.477	0.680	0.969
264	8	7	1	1	200	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.484	0.468	0.691	1.022

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

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		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	%LILU	%IVEW	%CTVR	%CGVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
265	8	7	1	2	50	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.618	0.639	0.854	1.178
266	8	7	1	2	100	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.580	0.597	0.826	1.172
267	8	7	1	2	200	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.532	0.539	0.785	1.166
268	8	7	1	3	50	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.737	0.796	1.037	1.424
269	8	7	1	3	100	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.668	0.719	0.976	1.385
270	8	7	1	3	200	2	10	1	31	6	155	142	0	0	0	0	0	7	5	0.580	0.612	0.883	1.318
271	8	7	1	1	50	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.749	0.688	0.725	0.930
272	8	7	1	1	100	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.744	0.684	0.736	0.968
273	8	7	1	1	200	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.738	0.680	0.754	1.030
274	8	7	1	2	50	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.871	0.850	0.910	1.176
275	8	7	1	2	100	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.835	0.810	0.886	1.177
276	8	7	1	2	200	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.788	0.755	0.851	1.179
277	8	7	1	3	50	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.995	1.013	1.097	1.427
278	8	7	1	3	100	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.927	0.937	1.041	1.394
279	8	7	1	3	200	3	10	1	29	6	10	155	0	0	0	0	0	7	5	0.840	0.832	0.953	1.337
280	8	7	1	1	50	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.658	0.640	0.691	0.902
281	8	7	1	1	100	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.651	0.69[illegible]	0.697	0.931
282	8	7	1	1	200	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.642	0.624	0.707	0.979
283	8	7	1	2	50	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.783	0.804	0.879	1.151
284	8	7	1	2	100	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.745	0.762	0.851	1.145
285	8	7	1	2	200	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.696	0.703	0.809	1.135
286	8	7	1	3	50	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.909	0.970	1.069	1.406
287	8	7	1	3	100	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.841	0.894	1.010	1.368
288	8	7	1	3	200	3	10	1	29	0	10	150	0	0	0	0	0	7	5	0.751	0.784	0.917	1.300
289	8	7	1	1	50	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.606	0.612	0.674	0.893
290	8	7	1	1	100	3	10	1	27	6	169	144	0	0	0	0	0	7	5	0.600	0.606	0.682	0.926
291	8	7	1	1	200	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.591	0.598	0.695	0.982
292	8	7	1	2	50	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.729	0.774	0.859	1.138
293	8	7	1	2	100	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.691	0.731	0.832	1.135
294	8	7	1	2	200	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.642	0.673	0.792	1.130
295	8	7	1	3	50	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.853	0.937	1.047	1.390
296	8	7	1	3	100	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.783	0.859	0.986	1.352
297	8	7	1	3	200	3	10	1	29	6	169	144	0	0	0	0	0	7	5	0.693	0.749	0.894	1.288
298	8	7	1	1	50	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.707	0.660	0.701	0.905
299	8	7	1	1	100	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.701	0.656	0.711	0.940
300	8	7	1	1	200	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.695	0.650	0.726	0.999
301	8	7	1	2	50	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.826	0.817	0.881	1.144
302	8	7	1	2	100	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.790	0.777	0.856	1.145
303	8	7	1	2	200	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.743	0.722	0.820	1.142
304	8	7	1	3	50	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.947	0.976	1.064	1.389
305	8	7	1	3	100	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.879	0.901	1.006	1.354
306	8	7	1	3	200	3	10	1	31	6	24	153	0	0	0	0	0	7	5	0.792	0.795	0.918	1.295
307	8	7	1	1	50	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.632	0.619	0.671	0.879
308	8	7	1	1	100	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.624	0.611	0.675	0.905

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
C A S E	I D	B A S E	S P E C	S O I L	D E N S	B R E F	O PI TD	O PI DD	SZ UE NN	V IZ EE WN	A HZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	L A T	M O N TH	D A Y	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
309	8	7	1	1	200	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.615	0.601	0.683	0.950
310	8	7	1	2	50	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.754	0.779	0.854	1.121
311	8	7	1	2	100	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.716	0.736	0.825	1.113
312	8	7	1	2	200	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.667	0.677	0.782	1.100
313	8	7	1	3	50	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.877	0.940	1.039	1.369
314	8	7	1	3	100	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.808	0.864	0.979	1.329
315	8	7	1	3	200	3	10	1	31	0	24	148	0	0	0	0	0	7	5	0.719	0.755	0.885	1.260
316	8	7	1	1	50	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.586	0.594	0.656	0.871
317	8	7	1	1	100	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.578	0.587	0.662	0.901
318	8	7	1	1	200	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.570	0.578	0.673	0.954
319	8	7	1	2	50	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.705	0.751	0.836	1.110
320	8	7	1	2	100	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.667	0.708	0.808	1.104
321	8	7	1	2	200	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.618	0.650	0.767	1.097
322	8	7	1	3	50	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.826	0.910	1.019	1.355
323	8	7	1	3	100	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.756	0.832	0.958	1.315
324	8	7	1	3	200	3	10	1	31	6	155	142	0	0	0	0	0	7	5	0.667	0.723	0.865	1.250
325	8	7	1	1	50	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.946	0.801	0.775	0.930
326	8	7	1	1	100	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.941	0.795	0.780	0.953
327	8	7	1	1	200	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.935	0.789	0.788	0.993
328	8	7	1	2	50	1	4	1	29	6	10	155	0	0	0	0	0	7	5	1.020	0.907	0.901	1.106
329	8	7	1	2	100	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.994	0.876	0.880	1.101
330	8	7	1	2	200	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.96[illegible]	0.835	0.851	1.096
331	8	7	1	3	50	1	4	1	29	6	10	155	0	0	0	0	0	7	5	1.094	1.014	1.030	1.287
332	8	7	1	3	100	1	4	1	29	6	10	155	0	0	0	0	0	7	5	1.048	0.957	0.983	1.255
333	8	7	1	3	200	1	4	1	29	6	10	155	0	0	0	0	0	7	5	0.991	0.882	0.916	1.205
334	8	7	1	1	50	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.789	0.716	0.716	0.884
335	8	7	1	1	100	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.782	0.708	0.716	0.900
336	8	7	1	1	200	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.774	0.698	0.718	0.929
337	8	7	1	2	50	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.864	0.824	0.844	1.063
338	8	7	1	2	100	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.837	0.791	0.829	1.051
339	8	7	1	2	200	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.804	0.747	0.785	1.036
340	8	7	1	3	50	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.940	0.934	0.975	1.246
341	8	7	1	3	100	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.893	0.876	0.926	1.209
342	8	7	1	3	200	1	4	1	29	0	10	150	0	0	0	0	0	7	5	0.834	0.797	0.854	1.150
343	8	7	1	1	50	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.704	0.669	0.684	0.863
344	8	7	1	1	100	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.699	0.662	0.687	0.883
345	8	7	1	1	200	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.692	0.654	0.693	0.920
346	8	7	1	2	50	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.778	0.775	0.810	1.039
347	8	7	1	2	100	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.752	0.742	0.787	1.031
348	8	7	1	2	200	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.719	0.700	0.756	1.023
349	8	7	1	3	50	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.853	0.882	0.938	1.220
350	8	7	1	3	100	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.805	0.824	0.891	1.185
351	8	7	1	3	200	1	4	1	29	6	169	144	0	0	0	0	0	7	5	0.748	0.747	0.821	1.131
352	8	7	1	1	50	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.879	0.760	0.743	0.899

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:45 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	ROPITD	DPIDD	SZUENN	VIZEEWN	ARZEILH	SCANTG	I %LLU	V %IEW	T %CVR	G %CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
353	8	7	1	1	100	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.874	0.754	0.746	0.921
354	8	7	1	1	200	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.868	0.747	0.754	0.960
355	8	7	1	2	50	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.951	0.863	0.866	1.071
356	8	7	1	2	100	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.925	0.632	0.844	1.065
357	8	7	1	2	200	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.894	0.791	0.814	1.058
358	8	7	1	3	50	1	4	1	31	6	24	153	0	0	0	0	0	7	5	1.023	0.967	0.991	1.247
359	8	7	1	3	100	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.978	0.911	0.944	1.214
360	8	7	1	3	200	1	4	1	31	6	24	153	0	0	0	0	0	7	5	0.921	0.836	0.877	1.164
361	8	7	1	1	50	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.752	0.689	0.693	0.859
362	8	7	1	1	100	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.746	0.681	0.692	0.873
363	8	7	1	1	200	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.738	0.671	0.693	0.901
364	8	7	1	2	50	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.826	0.795	0.817	1.033
365	8	7	1	2	100	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.799	0.761	0.792	1.021
366	8	7	1	2	200	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.766	0.717	0.757	1.004
367	8	7	1	3	50	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.900	0.901	0.944	1.212
368	8	7	1	3	100	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.853	0.843	0.896	1.174
369	8	7	1	3	200	1	4	1	31	0	24	148	0	0	0	0	0	7	5	0.795	0.765	0.824	1.115
370	8	7	1	1	50	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.676	0.646	0.664	0.839
371	8	7	1	1	100	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.670	0.639	0.666	0.859
372	8	7	1	1	200	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.663	0.631	0.671	0.894
373	8	7	1	2	50	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.748	0.750	0.786	1.011
374	8	7	1	2	100	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.721	0.717	0.763	1.002
375	8	7	1	2	200	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.690	0.675	0.731	0.993
376	8	7	1	3	50	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.820	0.854	0.911	1.187
377	8	7	1	3	100	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.774	0.796	0.863	1.152
378	8	7	1	3	200	1	4	1	31	6	155	142	0	0	0	0	0	7	5	0.717	0.720	0.794	1.098
379	8	7	1	1	50	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.796	0.615	0.825	1.101
380	8	7	1	1	100	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.791	0.610	0.830	1.125
381	8	7	1	1	200	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.785	0.604	0.838	1.165
382	8	7	1	2	50	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.868	0.719	0.952	1.280
383	8	7	1	2	100	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.843	0.689	0.930	1.274
384	8	7	1	2	200	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.812	0.649	0.901	1.269
385	8	7	1	3	50	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.942	0.825	1.081	1.462
386	8	7	1	3	100	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.896	0.767	1.034	1.429
387	8	7	1	3	200	2	4	1	29	6	10	155	0	0	0	0	0	7	5	0.840	0.695	0.967	1.379
388	8	7	1	1	50	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.639	0.531	0.766	1.054
389	8	7	1	1	100	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.633	0.523	0.766	1.070
390	8	7	1	1	200	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.625	0.513	0.768	1.099
391	8	7	1	2	50	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.714	0.637	0.895	1.234
392	8	7	1	2	100	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.687	0.605	0.870	1.223
393	8	7	1	2	200	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.654	0.561	0.835	1.207
394	8	7	1	3	50	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.788	0.745	1.025	1.419
395	8	7	1	3	100	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.742	0.688	0.977	1.382
396	8	7	1	3	200	2	4	1	29	0	10	150	0	0	0	0	0	7	5	0.684	0.610	0.904	1.322

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS				VIEW GEOMETRY			CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	U PI TO	O PI DD	SZ UE NN	V TZ EE WN	A RZ EI LM	S CA AN TG	I %L L U	V %I E W	T %C V R	G %C V R	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
397	8	7	1	1	50	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.554	0.483	0.734	1.033
398	8	7	1	1	100	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.549	0.476	0.737	1.054
399	8	7	1	1	200	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.542	0.469	0.743	1.091
400	8	7	1	2	50	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.627	0.587	0.861	1.211
401	8	7	1	2	100	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.601	0.555	0.838	1.203
402	8	7	1	2	200	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.569	0.514	0.806	1.194
403	8	7	1	3	50	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.700	0.692	0.989	1.393
404	8	7	1	3	100	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.654	0.636	0.941	1.358
405	8	7	1	3	200	2	4	1	29	6	169	144	0	0	0	0	0	7	5	0.597	0.560	0.872	1.304
406	8	7	1	1	50	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.732	0.578	0.792	1.067
407	8	7	1	1	100	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.727	0.572	0.795	1.089
408	8	7	1	1	200	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.722	0.566	0.802	1.128
409	8	7	1	2	50	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.803	0.679	0.915	1.240
410	8	7	1	2	100	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.778	0.649	0.893	1.234
411	8	7	1	2	200	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.748	0.609	0.863	1.227
412	8	7	1	3	50	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.875	0.782	1.040	1.418
413	8	7	1	3	100	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.830	0.727	0.994	1.385
414	8	7	1	3	200	2	4	1	31	6	24	153	0	0	0	0	0	7	5	0.774	0.653	0.927	1.333
415	8	7	1	1	50	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.606	0.508	0.741	1.025
416	8	7	1	1	100	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.600	0.500	0.741	1.040
417	8	7	1	1	200	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.592	0.490	0.742	1.067
418	8	7	1	2	50	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.679	0.612	0.867	1.201
419	8	7	1	2	100	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.652	0.579	0.841	1.188
420	F	7	1	2	209	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.620	0.536	0.806	1.171
421	3	7	1	3	50	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.752	0.716	0.994	1.381
422	3	7	1	3	100	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.706	0.660	0.945	1.343
423	8	7	1	3	200	2	4	1	31	0	24	148	0	0	0	0	0	7	5	0.649	0.583	0.873	1.283
424	8	7	1	1	50	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.529	0.464	0.712	1.006
425	8	7	1	1	100	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.524	0.458	0.714	1.025
426	8	7	1	1	200	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.517	0.450	0.719	1.061
427	8	7	1	2	50	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.600	0.566	0.836	1.179
428	8	7	1	2	100	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.574	0.534	0.812	1.170
429	8	7	1	2	200	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.543	0.493	0.780	1.160
430	8	7	1	3	50	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.671	0.669	0.961	1.357
431	8	7	1	3	100	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.626	0.612	0.913	1.321
432	8	7	1	3	200	2	4	1	31	6	155	142	0	0	0	0	0	7	5	0.570	0.537	0.844	1.267
433	8	7	1	1	50	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.919	0.782	0.795	0.987
434	8	7	1	1	100	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.914	0.776	0.799	1.010
435	8	7	1	1	200	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.908	0.770	0.807	1.051
436	8	7	1	2	50	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.992	0.888	0.921	1.164
437	8	7	1	2	100	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.967	0.856	0.899	1.158
438	8	7	1	2	200	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.936	0.816	0.870	1.153
439	8	7	1	3	50	3	4	1	29	6	10	155	0	0	0	0	0	7	5	1.067	0.995	1.049	1.345
440	8	7	1	3	100	3	4	1	29	6	10	155	0	0	0	0	0	7	5	1.020	0.938	1.003	1.313

***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BREF	OPITD	DPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
441	8	7	1	3	200	3	4	1	29	6	10	155	0	0	0	0	0	7	5	0.964	0.862	0.935	1.263
442	8	7	1	1	50	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.762	0.697	0.735	0.940
443	8	7	1	1	100	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.755	0.689	0.735	0.956
444	8	7	1	1	200	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.748	0.679	0.737	0.985
445	8	7	1	2	50	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.837	0.805	0.864	1.120
446	8	7	1	2	100	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.810	0.772	0.839	1.108
447	8	7	1	2	200	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.777	0.728	0.804	1.093
448	8	7	1	3	50	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.913	0.914	0.994	1.304
449	8	7	1	3	100	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.866	0.85[illegible]	0.945	1.267
450	8	7	1	3	200	3	4	1	29	0	10	150	0	0	0	0	0	7	5	0.807	0.777	0.873	1.207
451	8	7	1	1	50	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.677	0.649	0.703	0.919
452	8	7	[illegible]	1	100	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.672	0.643	0.706	0.940
453	8	7	1	1	200	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.665	0.635	0.712	0.977
454	8	7	1	2	50	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.751	0.755	0.830	1.096
455	8	7	1	2	100	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.725	0.723	0.806	1.088
456	8	7	1	2	200	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.692	0.681	0.775	1.080
457	8	7	1	3	50	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.825	0.862	0.958	1.277
458	8	7	1	3	100	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.778	0.805	0.910	1.243
459	8	7	1	3	200	3	4	1	29	6	169	144	0	0	0	0	0	7	5	0.720	0.727	0.840	1.189
460	8	7	1	1	50	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.853	0.741	0.761	0.955
461	8	7	1	1	100	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.848	0.735	0.765	0.977
462	8	7	1	1	200	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.842	0.728	0.772	1.016
463	8	7	1	2	50	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.924	0.844	0.885	1.128
464	8	7	1	2	100	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.899	0.813	0.863	1.121
465	8	7	1	2	200	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.868	0.772	0.833	1.115
466	8	7	1	3	50	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.997	0.948	1.010	1.304
467	8	7	1	3	100	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.951	0.892	0.963	1.271
468	8	7	1	3	2[illegible]	3	4	1	31	6	24	153	0	0	0	0	0	7	5	0.895	0.817	0.896	1.220
469	8	7	1	1	50	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.726	0.671	0.711	0.914
470	8	7	1	1	100	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.720	0.662	0.711	0.929
471	8	7	1	1	200	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.712	0.652	0.712	0.956
472	8	7	1	2	50	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.799	0.776	0.836	1.089
473	8	7	1	2	100	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.773	0.743	0.811	1.076
474	8	7	1	2	200	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.740	0.699	0.776	1.060
475	8	7	1	3	50	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.873	0.882	0.963	1.268
476	8	7	1	3	100	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.827	0.825	0.915	1.230
477	8	7	1	3	200	3	4	1	31	0	24	148	0	0	0	0	0	7	5	0.769	0.747	0.843	1.171
478	8	7	1	1	50	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.650	0.627	0.682	0.895
479	8	7	1	1	100	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.644	0.620	0.684	0.914
480	8	7	1	1	200	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.637	0.612	0.689	0.949
481	8	7	1	2	50	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.721	0.731	0.805	1.067
482	8	7	1	2	100	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.695	0.698	0.782	1.058
483	8	7	1	2	200	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.663	0.656	0.750	1.049
484	8	7	1	3	50	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.793	0.835	0.930	1.244

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***** OUTPUT CALCULATIONS FROM ERIM MULTISPECTRAL SYSTEM SIMULATION MODEL ***** 13:52:46 05-14-76

		CANOPY PARAMETERS				ATMOSPHERIC CHARACTERISTICS			VIEW GEOMETRY				CANOPY CHARACTERISTICS				TIME AND PLACE			INBAND RADIANCES (SPECTRAL BAND LIMITS IN NANOMETERS)			
CASE	ID	BASE	SPEC	SOIL	DENS	BRFF	OPITD	OPIDD	SZUENN	VIZEEWN	ARZEILM	SCAANTG	I%LLU	V%IEW	T%CVR	G%CVR	LAT	MONTH	DAY	500 TO 600	600 TO 700	700 TO 800	800 TO 1100
485	8	7	1	3	100	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.747	0.777	0.882	1.208
486	8	7	1	3	200	3	4	1	31	6	155	142	0	0	0	0	0	7	5	0.690	0.701	0.813	1.154

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